

# HELMINTHOLOGICAL ABSTRACTS

*incorporating*  
BIBLIOGRAPHY OF HELMINTHOLOGY  
For the Year 1945.



IMPERIAL BUREAU OF AGRICULTURAL PARASITOLOGY  
(HELMINTHOLOGY)

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INCORPORATING BIBLIOGRAPHY OF HELMINTHOLOGY  
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Vol. XIV, Part 4.

## 168—Acta Medica Orientalia.

- a. WITENBERG, G., 1945.—“*Ascaris lumbricoides*. A review of its most important facts.” 4 (11), 363-369.
- b. MILWIDSKY, H., 1945.—“The surgical complications of ascariasis.” 4 (11), 370-384.
- c. DRUCKMANN, A. & SCHOOR, S., 1945.—“Ascariasis of the duodenal bulb. (With three case reports).” 4 (11), 385-386.
- d. SCHINDEL, L., 1945.—“The pharmacological basis of anthelmintics in *Ascaris* therapy.” 4 (11), 387-390.

(168d) Discussing the effects of santonin, oleum chenopodii, and hexylresorcinol against *Ascaris lumbricoides* in man, Schindel says that santonin probably acts by causing the worms to withdraw into the large intestine whence they are expelled by the concurrently administered laxative. The greater part of the drug is eliminated unchanged in the faeces. The ascaridol of oleum chenopodii probably paralyses the worm, but also causes reduced peristalsis in the host's intestine. Hexylresorcinol penetrates the ascaris cuticle and interferes with its muscular activity, but is inactivated by proteins, such as mucus. Posological details are given for all 3 drugs. B.G.P.

## 169—Acta Pathologica et Microbiologica Scandinavica.

- a. MADSEN, H., 1945.—“Biological observations upon *Enterobius vermicularis* (pinworm).” 22 (4), 392-397.

(169a) Madsen rejects the hypothesis that there is a multiplication of *Enterobius vermicularis* within the host. The eggs require oxygen to reach the infective stage. The frequent monthly periodicity in the manifestation of infection is due to the period of development of the worm. He accepts the more recent hypothesis that infection is by dust inhalation. R.T.L.

## 170—Agricultura Tecnica. Chile.

- a. TAGLE V., I., 1945.—“Notas de parasitologia. *Macracanthorhynchus hirudinaceus* (Pallas 1781).” 5 (1), 99-100.

(170a) The author records the presence of *Macracanthorhynchus hirudinaceus* in pigs which have been imported into Chile from the Argentine. The parasite does not occur in native pigs. P.A.C.

## 171—Agricultural Gazette of New South Wales.

- a. ANON, 1945.—“The control of plant diseases by seed treatment.” 56 (12), 537-540.

(171a) In this article brief particulars are given about the warm water treatment for the control of stem eelworm on lucerne and red clover and in narcissus bulbs. T.G.

## 172—American Journal of Clinical Pathology. Technical Section.

- a. BOHROD, M. G., 1945.—“Detection of *Diphyllobothrium latum* ova in polarized light.” 9 (5), 77-78.

(172a) The eggs of *Diphyllobothrium latum* can be easily and quickly detected in faecal smears by polarized light under low magnification ( $\times 40$ ). Although double-refracting materials occur in all stools none are readily confused with these eggs. R.T.L.



## 173—American Journal of Hygiene.

- a. McMULLEN, D. B. & BEAVER, P. C., 1945.—“Studies on schistosome dermatitis. IX. The life cycles of three dermatitis-producing schistosomes from birds and a discussion of the subfamily Bilharziellinae (Trematoda: Schistosomatidae).” 42 (2), 128–154.
- b. BURROWS, R. B., 1945.—“A survey of intestinal parasites in natives in Dutch New Guinea.” 42 (3), 262–265.

(173a) The genus *Pseudobilharziella* is made a synonym of *Trichobilharzia*. Owing to the similarity of the adults the species of this genus are most satisfactorily based on differences in the eggs. By experiment the adults of 3 schistosome cercariae which cause dermatitis in man have now been identified. The adult of *C. physellae* is *Trichobilharzia physellae* (syn. *Pseudobilharziella querquedulae*); that of *C. elvae* is *T. ocellata* (syn. *T. kossarewi*); and that of *C. stagnicolae* is *T. stagnicolae*. *T. ocellata* and *T. physellae* develop in ducks and other birds. *T. stagnicolae* so far has only attained the adult stage in canaries. Infection in all 3 cases does not last longer than 1 to 2 months and eggs are produced within 2 weeks. Eleven species are listed as valid in the genus *Trichobilharzia*. The authors describe and illustrate a flask with a side arm in which the miracidia can be readily collected owing to their positive phototropic and negative geotropic characteristics. Adults are more readily collected if the bird's heart is previously injected with 1% sodium citrate in physiological salt solution. R.T.L.

(173b) Only 3% of 341 natives of Dutch New Guinea were found free from intestinal parasites: 86.5% harboured hookworm, 54.8% had *Ascaris*, 39.3% had *Trichuris*, 9.1% had *Strongyloides* and there were several protozoal species. R.T.L.

## 174—American Journal of Tropical Medicine.

- a. CULBERTSON, J. T., ROSE, H. M. & OLIVER-GONZALEZ, J., 1945.—“The chemotherapy of human filariasis by the administration of neostibosan. Second report.” 25 (5), 403–406.
- b. BANG, F., FERGUSON, M. S., HAIRSTON, N. G. & GRAHAM, O. H., 1945.—“Hyperendemicity of *Schistosomiasis japonica* on Leyte Island, P.I.” 25 (5), 407.
- c. SCHLOSSER, R. J., 1945.—“Observations on the incidence of *Wuchereria bancrofti* larvae in the native population of the Solomon Islands area.” 25 (6), 493–495.
- d. HARRIS, J. S. & SUMMERS, W. A., 1945.—“A concentration method for demonstrating microfilariae in blood.” 25 (6), 497–498.
- e. OTTO, G. F., 1945.—“Fresh laboratory material for teaching medical parasitology.” 25 (6), 515–518.

(174a) The authors give an account of the “follow up” of 30 filaria-infected individuals who had been experimentally treated with neostibosan 12 months previously. A report on 6 months progress of this experiment has already appeared [see Helm. Abs., Vol. XIV, No. 71d]. Twelve months after treatment, 13 of the patients were free of circulating microfilariae and 5 others had lost from 87% to 99% of the microfilariae noted before treatment. Of 15 control untreated patients, all remained infected for 14 months of observation, 12 showed an over-all increase and 3 showed a decrease in the number of circulating microfilariae. Evidence is adducible from this experiment to indicate that once the microfilariae have disappeared from the infected individuals after the treatment, the infection is entirely eradicated. J.J.C.B.

(174b) Bang et al. conclude, from surveys of 5 barrios on the east side of Leyte, that “everyone living in the endemic-areas of Leyte becomes infected before reaching the age of 15”,—with *Schistosoma japonicum*. B.G.P.

(174c) An examination of 1,741 natives from the Solomons, Fiji and Gilbert Islands showed a 19% infection of these with microfilariae of *Wuchereria bancrofti*. The highest infection rate of 31.5% was noted in natives from San Cristobal. A marked nocturnal periodicity was demonstrated in the microfilariae of natives from the 3 Solomon Islands, Guadalcanal, Malaita and San Cristobal; it was less clearly defined in natives from Gilbert Islands. The author includes a brief description of some preliminary studies on the infectivity of local anopheline mosquitoes on Gilbert Island. J.J.C.B.



(174d) Harris & Summers examine blood for microfilariae by drawing 4 ml. venous blood into a tube containing 0.01 ml. heparin solution. They then add 4 ml. 2% saponin solution and, when haemolysis is complete, centrifuge 6 ml. of the mixture at 2,000 r.p.m. for 10 minutes; the residual 0.1 ml. is spread on a slide and examined. Microfilariae are highly concentrated, may remain motile for many hours, or can be stained after drying the smear. This technique is held to be better than existing ones, the advantages and disadvantages of which are compared in a table.

B.G.P.

(174e) Suggestions are made for obtaining fresh material of protozoa and helminths for teaching medical zoology classes (in the U.S.A.), using laboratory or wild animals. It is difficult to obtain trematodes similar to those infesting man, though living trematodes as such are fairly common in frogs (rectum, intestine, bladder, lungs, and also subcutaneous metacercariae).

B.G.P.

### 175—American Journal of Veterinary Research.

- a. DIKMANS, G., 1945.—“Check list of the internal and external animal parasites of domestic animals in North America (United States and Possessions, and Canada).” 6 (21), 211–241.
- b. DINABURG, A. G., 1945.—“The effect of low outdoor temperatures on the free-living stages of some common nematode parasites of sheep.” 6 (21), 257–263.

(175a) In partial implementation of a recommendation made in 1943 by the Committee on Parasitology of the A.V.M.A., Dikmans gives a check list of parasites in the form of 12 tables. These cover (i) the internal and (ii) the external parasites of the following 6 groups of hosts: horses, mules, asses; cattle; swine; sheep and goats; dogs and cats; and domesticated birds. Each table cites group and common names, scientific name, location in host, intermediary, and distribution (by States or larger units) in North America.

B.G.P.

(175b) The over-wintering of helminth larvae from sheep was previously determined by the infection acquired by parasite-free lambs grazing on the pastures during the following spring. This failed to give information on the fate of eggs deposited on pastures during the winter months. The present investigations were expressly designed to elucidate the effect of their exposure to low temperatures. The results of a large series of tests are given in 3 tables. No infective larvae were obtained from eggs of *Cooperia*, *Trichostrongylus* or *Oesophagostomum* when the mean maximum temperature during about 14 days fell below 42°F. and the mean minimum below 29°F. If sheep with these parasites were removed from pasture before or during the occurrence of these low temperatures the recently deposited pre-infective stages would probably be killed in a fortnight, but if infected sheep were kept throughout the winter on the same pasture this continuous deposit of eggs would be available to develop at the earliest opportunity unless they were killed by unfavourable conditions.

R.T.L.

### 176—Anais da Academia Brasileira de Ciencias.

- a. TORRES, C. M. & PINTO, C., 1945.—“Mecanismo de eliminação dos ovos de *Schistosoma mansoni* estudado no tatu (*Euphractus sexcinctus*).” 17 (4), 271–272.

(176a) Torres & Pinto describe the histological changes occurring in the intestinal wall of an armadillo, *Euphractus sexcinctus*, which was infested with *Schistosoma mansoni*. In the small intestine the ova and resulting granulomata were found only in the submucosa. In the large intestine the lesions were found largely in the mucosa. The process of egg elimination depends on a series of factors—the structure of the intestinal wall, in particular the size of the blood vessels, the extrusion of the ova in the way described by Koppisch and their fixation at the level of the base of Lieberkühn's glands when a cellular infiltration occurs. Then a partial disintegration of tissues occurs when the ova are liberated into the glands and finally, they pass into the lumen of the intestine.

P.A.C.



## 177—Anales del Instituto de Biología.

- a. CABALLERO y C., E., 1945.—“Hallazgo de una especie nueva del género *Petalodistomum* Johnston, 1913 (Trematoda: Gorgoderidae) en los tiburones de las costas de Manzanillo, Colima.” 16 (2), 359-365. [English summary pp. 364-365.]
- b. CABALLERO y C., E., 1945.—“Estudios helmintológicos de la región oncocercosa de México y de la República de Guatemala. Nematoda 3a parte. Filarioidea. II. El género *Onchocerca*.” 16 (2), 367-409.

(177a) *Petalodistomum pacificum* n.sp. is described by Caballero from the coelom of an unidentified shark from the Pacific Coast of Mexico. He discusses its relationship with the two other species of the genus, and finds that it differs in having dendritic, inter-caecal vitellaria, extra-caecal groups of 9 to 12 irregular testicular follicles, in the development of the uterus, and in the sinuous caeca with very short diverticula. In the light of known variations, the genus *Nagmia* Nagaty is made synonymous with *Petalodistomum*, which is redefined. N.G.S.

(177b) A systematic study of a large amount of material of *Onchocerca* spp. has drawn Caballero to the conclusion that there are only 6 valid species: *O. reticulata*, *O. flexuosa*, *O. lienalis*, *O. volvulus*, *O. armillata* and *O. gibsoni*. *O. caprae* and *O. fasciata* remain as species inquirendae as no material was available for examination and available descriptions are inadequate. *O. fülleborni* is incorporated into the genus *Crassicauda*, *O. bambusicolae* goes into the genus *Paronchocerca*, and *O. flexuosa* is best accommodated in the genus *Wehrdickmansi*. P.A.C.

## 178—Annales de Parasitologie Humaine et Comparée.

- a. BRUMPT, E., 1945.—“Recherches biologiques diverses concernant le cycle évolutif du trématode *Opisthioglyphe ranae* (Plagiorchiidae).” (1944-1945), 20 (5/6), 209-243.
- b. BRUMPT, E., 1945.—“Cycle évolutif du trématode *Leptophallus nigrovenosus*, parasite de la couleuvre à collier (*Tropidonotus natrix*), et expérimentalement de la vipère (*Vipera aspis*).” (1944-1945), 20 (5/6), 244-262.
- c. DESPORTES, C., 1945.—“La dermatite des nageurs.” (1944-1945), 20 (5/6), 263-278.
- d. LENT, H. & FREITAS, J. F. TEIXEIRA DE, 1945.—“Sur la position systématique de *Distoma arrectum* Molin 1859.” (1944-1945), 20 (5/6), 279-283.
- e. PIGULEVSKY, S. V., 1945.—“Deux nouvelles espèces du genre *Gorgodera*.” (1944-1945), 20 (5/6), 284-287.
- f. DESPORTES, C., 1945.—“Volumineux sarcome hépatique à *Cysticercus fasciolaris* chez un surmulot.” (1944-1945), 20 (5/6), 288-296.
- g. ROMAN, E., 1945.—“Spécificité parasitaire des oxyurides du genre *Syphacia* chez les rats de l'Europe occidentale.” (1944-1945), 20 (5/6), 297-298.
- h. HSÜ, H. F., 1945.—“Présence d'une membrane péritrophique chez *Physaloptera clausa* (nématodes).” (1944-1945), 20 (5/6), 299-303.
- i. THIEL, P. H. VAN & WIEGAND BRÜSS, C. J. E., 1945.—“Présence de *Prosthenorchis spirula* chez les chimpanzés. Son rôle pathogène et son développement dans *Blattella germanica*.” (1944-1945), 20 (5/6), 304-320.
- j. PAVLOV, P., 1945.—“*Helicella obvia* (Ziegler), hôte intermédiaire de *Dicrocoelium lanceolatum* (Rud. 1803).” (1944-1945), 20 (5/6), 334-335.
- k. PAVLOV, P., 1945.—“Helminthes intestinaux d'oiseaux sauvages de Bulgarie.” (1944-1945), 20 (5/6), 335-336.

(178a) In his restudy of the life-cycle of *Opisthioglyphe ranae*, Brumpt is able largely to confirm the accounts of Looss and Sinitzin, and to add new facts of biological interest. Both *Limnaea limosa* and *L. stagnalis* harbour sporocysts—which are anchored by a verrucose projection—containing one to three stylet-cercariae and a number of germ-balls. Cercariae are shed far more frequently during daylight, irrespective of the temperature, and they are able to encyst at 0°C. in *Alytes* tadpoles. Cercariae can live for periods up to 62 hours. They could be observed encysting in the tails of tadpoles which had been killed by heat, but in smaller numbers than in the living. They also encyst in the snail host, mainly in the foot, but metacercariae were never found in the sporocysts. Cercariae encysted in large numbers in the skin of tadpoles of *Xenopus*, in tongue of newt tadpoles, and in the tail of the axolotl where their migrations produced haemorrhagic spots. Three cercariae even encysted in the skin of a newly born mouse, but only one in a young *Gambusia*; they showed no attraction by arthropods.



Development of the adult is very slow: in *Bufo vulgaris* it took 80 to 106 days, and in *R. esculenta* 69 to 81 days. Inoculation of adult trematodes from one amphibian host to another was accomplished by mouth. Ingestion of metacercariae caused 4 *Xenopus laevis* to void mature bothriocephalids (*Cephalochlamys namaquensis*), and others with heavy infections of ciliates, refused the metacercariae fed to them. N.G.S.

(178b) [For abstract of this paper see below No. 199a.]

(178c) The dermatitis known as "swimmers' itch" is an eruptive, pruritic skin affection of short duration, contracted after immersion in fresh water during the summer. It is caused by penetration by cercariae of schistosomes *not* normally parasitic of man and is associated with their concentration during periods of drought. The symptomatology, aetiology, pathology, histology, geographical distribution and seasonal incidence are summarized. Secondary bacterial infection is believed to aggravate the condition which may simulate "water itch" caused by hookworm larvae. The symptoms are best relieved by freezing with ice or ethyl chloride. R.T.L.

(178d) *Distoma arrectum* of Molin, 1859 has been re-examined by Lent & Freitas from *Lacerta vivipara* from Hamburg. They find that it differs from the type of Dujardin, from *L. viridis*, in the more posterior position of the gonads, the uterus having two simple loops, and not irregularly coiled, and the vitellaria extending into the posterior region of the body. They re-designate Molin's species as *Plagiorchis molini* n.sp. N.G.S.

(178e) *Gorgodera asiatica* n.sp. and *G. dollfusi* n.sp. are described by Pigulevsky—both from the urinary bladder of *Rana ridibunda* from Asia Minor. A tabular comparison is given for the 12 species of *Gorgodera*. N.G.S.

(178g) Roman redescribes *Syphacia obvelata* from material collected from the caecum and colon of *Mus musculus* in France. *S. stroma* occurs in *Apodemus sylvaticus* in the small intestine, though occasionally females are found in the large intestine. *S. ratti* n.sp. from the caecum of *Epimys rattus* is a small form with a small vesicular tegumentary plaque. The male is unknown. *S. frederici* n.sp., a parasite of the caecum of *Apodemus sylvaticus*, can be recognized by the characters of the lips. The male is unknown. All these species seem to be strictly confined to a single host. P.A.C.

(178h) Hsü describes a peritrophic membrane in the species *Physaloptera clausa*. It is a thin membrane taking its origin in a series of specialized cells at the anterior end of the mesenteron and hanging freely in the cavity of the intestine. It extends the whole length of the intestine and consists of several flat layers of cells with fine perpendicular striations. The chemical nature is not known but staining reactions suggest that it bears similarities with that of the external cuticle. Similar membranes are known among the insects but do not appear to have been described previously from the nematodes. P.A.C.

(178i) Heavy infections of the acanthocephalan *Prosthenorchis spirula* in two chimpanzees in the Rotterdam Zoo provided material for a complete verification of the life-cycle. Experiments with various cockroaches showed that *Blattella germanica* is the true intermediate host. The developmental stages are described and illustrated. The mechanism of intestinal perforation in the chimpanzee, its pathogenic effects, and the subsequent invasion by micro-organisms are discussed. N.G.S.

(178j) The infestation of sheep with *Dicrocoelium dendriticum* in Bulgaria is found by Pavlov to be between 40% and 60%, according to the pasture; but he finds that the intermediate host, *Helicella obvia*, is infected from 5% to 12% only. Experiments show that the operculated egg hatches in the gut of the snail: though hatching does not occur if the egg is not embryonated, nor if the snail is lethargic; so that hatching depends not only on intestinal secretions, and the pH of the medium, but also on more complex factors. N.G.S.

(178k) Pavlov records the presence of a number of helminth species among the wild birds of Bulgaria. From *Pica pica* he recovered *Hymenolepis serpentulus*, *Dilepis undula*, *Centro-rhynchus bipartitus* and *H. stylosa*. Specimens of *Coloeus monedula spermologus* yielded



*Anomotaenia constricta* and *C. bipartitus* while *Mediorhynchus micracanthus* was obtained from *Passer domesticus*. *Acuaria laticeps* was recovered from a sparrow-hawk. Many of these are new host or geographical records. P.A.C.

### 179—Annals of Applied Biology.

- a. JONES, F. G. W., 1945.—“Soil populations of beet eelworm (*Heterodera schachtii* Schm.) in relation to cropping.” 32 (4), 351–380.

(179a) Jones describes the various steps in a technique for estimating the total number of cysts, viable cysts and eggs in a soil infested with the sugar-beet eelworm, the accuracy of each step being examined statistically. The technique was used in estimating the infection in 24 fields during 1937 to 1942. Detailed results are presented together with graphs showing the yearly changes in eelworm population and the various crops grown. In general the eelworm population is shown to increase when susceptible crops are grown frequently and to decrease again when non-susceptible crops are grown. The extent of damage to susceptible crops is correlated with the level of eelworm population. After a susceptible crop the eelworm population increased markedly only on heavily infested land: on lightly infested land the increase was smaller. It is shown that at least 10 years rest from susceptible crops may be necessary on severely beet-sick land before beet may again be safely grown. Non-susceptible root crops in general cause a fall in eelworm population, as also do cereals to a lesser degree. A list is given of 17 susceptible weeds which harbour cysts “similar to” those of beet eelworm. The sampling technique used is discussed in relation to its application to advisory work, and it is suggested that in Fen soil it is unsafe to grow sugar-beet or mangolds if the eelworm population is above 10 eggs per gm. of air-dried soil. The finding of certain fungi in some eelworm cysts is noted.

M.T.F.

### 180—Archives of Dermatology and Syphilology.

- a. DOLCE, F. A. & FRANKLIN, J. E., 1945.—“Creeping eruption. Results of treatment with fuadin.” 52 (3), 174–175.

(180a) Only 2 out of 14 cases of creeping eruption were satisfactorily treated with foudain. This method is much inferior to freezing.

R.T.L.

### 181—Archives of Pathology.

- a. RIFKIN, H. & THOMPSON, K. J., 1945.—“Structural changes in early filariasis.” 40 (4), 220–224.  
b. DHAYAGUDE, R. G., 1945.—“Microfilarial granuloma of the spleen: observations in twelve additional cases.” 40 (4), 275–278.

(181a) There is a distinct reticulo-endothelial response to the presence of adult filariae in the lymphatics. The genesis of filariasis is divisible into 3 stages: (i) an acute stage with a typical local or systemic allergic reaction, (ii) a subacute or early chronic stage in which the characteristic feature is the development of proliferative granulation in the lymphatic tissues, (iii) a chronic stage with non-specific overgrowth of fibrous tissue. These stages merge into each other. These conclusions are based on material obtained by biopsy of service patients from the South Pacific islands. The absence of lymphangitis or elephantiasis in many patients who show embryos in their peripheral blood is possibly attributable to a natural host resistance. The authors have not been able to demonstrate streptococci in lesions where there has been a reticulo-endothelial response and they accordingly favour the view that filarial infection is independently responsible for recurrent lymphangitis and an eventual elephantoid reaction.

R.T.L.

(181b) Dhayagude reports 12 additional cases of microfilarial granuloma of the spleen [see Helm. Abs., Vol. XI, No. 162a] giving further details with 8 microphotographs. In the unfibrosed nodules living or degenerate microfilariae were constantly present, while in fibrosed nodules from 2 spleens they were not observed. The author suggests that there is some relationship between the trauma of the spleen and the occurrence of the nodules observed in a number of the cases.

R.T.L.



**182—Bird Banding.**

- a. BEAUDETTE, F. R., 1945.—“Aspergillosis and parasitism in a gull.” 16 (3), 99–101.

**183—Boletín de la Asociación Médica de Puerto Rico.**

- a. READ, H., 1945.—“La esquistosomiasis en Santo Domingo.” 37 (3), 105–109.

**184—Boletín del Instituto de Clínica Quirúrgica. Universidad de Buenos Aires.**

- a. NIÑO, F. L., 1945.—“Papel de los helmintos en las llamadas apendicitis verminosas.” 21 (173), 277–281.

**185—Boletín Mensual. Dirección de Ganadería, Montevideo.**

- a. CASSAMAGNAGHI, JR., A., 1945.—“Sobre la presencia de *Bunostomum phlebotomum* en los bovinos.” 28 (1), 29–34.

**186—British Medical Journal.**

- a. HYNES, M., ISHAQ, M. & MORRIS, T. L., 1945.—“Iron-deficiency anaemia in North-west Indian soldiers.” Year 1945, 1 (4400), 626–628.  
b. CAWSTON, F. G., 1945.—“Destruction of adult schistosomes in man.” [Letters and Answers.] Year 1945, 2 (4433), 910.

(186a) Hynes et al. found a hypochromic and either normocytic or microcytic anaemia common among 1,400 N.W. Indian soldiers, only one third of whom had 14 gm. or more Hb per 100 ml. capillary blood. Moderate and severe anaemia cases usually harboured hookworm, and light cases not. The lightest hookworm cases had a mean Hb level significantly lower than the uninfested. Most of 75 treated cases responded to iron therapy, infestation having no unfavourable effect on the response. Thus hookworm was an important, but not the sole, cause of the anaemia, and appeared to be superimposed upon a dietary deficiency. B.G.P.

**187—Bulletin de l'Académie de Médecine. Paris.**

- a. LAVIER, G., 1945.—“Les facteurs qui influent sur l'éosinophilie sanguine dans les helminthiases.” 3e Série, 129 (16/18), 269–271.

(187a) Lavier summarizes briefly certain general features of eosinophilia of the blood in helminthiasis. In his opinion the period of infection is more important than species of parasite. After a latent period following entry of a helminth into the host there is a rapid rise in the eosinophil count reaching a maximum or critical point after which the eosinophilia falls, until it stabilizes at a low figure and may remain stationary for several years. Decline sets in after disappearance of the parasite, but is slow. The general form of this eosinophil curve is the same whatever the helminth; but the critical points, date at which maximum is reached, etc., vary with different species. The rise of the eosinophilia is quite independent of the appearance of other diagnostic signs such as presence of ova. Lavier thinks this explains the occurrence of high eosinophilia before parasites have been demonstrated and conversely the low eosinophilia which may be associated with obvious infection; he considers that the relatively low eosinophilia associated with, for example, *Taenia* or *Enterobius*, is explained by the fact that the eosinophil maximum precedes by a considerable period the manifestation of worms or ova. The number of parasites is also a controlling factor. There seems to be a “threshold” number required to produce eosinophilia, as was shown by Dansker for *Ascaris* and Young for *Clonorchis*. This number itself reaches a maximum and then declines; this, perhaps, explaining the phenomenon of absence of eosinophilia, or even eosinopenia, noted by Opie & Staubli in certain *Trichinella* infections. In the host itself several factors seem to influence the degree of eosinophilia. The host species may have some effect or it may be simply the weight of the host which is the influential factor. Even light infections with another infectious disease reduces the eosinophilia, while after cure the eosinophilia rises again. There is in addition an anaphylactic factor producing increased eosinophilia of antigenic origin distinct from the normal gradual eosinophil increase. Medication, whatever the drug and the parasite, stimulates first the rise and then the decline of the eosinophil level. S.G.C.



## 188—Bulletin et Mémoires de la Société Médicale des Hôpitaux de Paris.

- a. DROUET, P. L., THOMAS, C., HERBEUVAL, R. & FAIVRE, G., 1945.—“Hémorragies du vitré et ascaridiose. Nouvelles hémorragies du vitré et néphrite consécutive à une intradermo-réaction à la toxine ascaridienne.” 4e Série, 61 (24/25), 342-344.

(188a) Drouet et al. have observed a case of ascariasis which was associated with haemorrhages into the vitreous humour. Some ascarids were removed following treatment with santonin. The patient still showed an eosinophilia but complement fixation tests proved negative. Intradermal tests, using coelomic fluid of 1%, gave a positive result: a third intradermal test resulted in a well-marked wheal, 2.5 cm. in diameter with a central haemorrhagic area surrounded by erythema and petechiae. Four hours later the patient developed haemorrhage in the temporal region with oedema and the urine gave evidence of nephritis. These symptoms had disappeared 2 days later. It is suggested that the ascaris toxin is the cause of these symptoms: ocular haemorrhages have been recorded before but not nephritis with renal haemorrhage. The patient had apparently become hypersensitive. P.A.C.

## 189—Bulletin. Ministry of Agriculture, Egypt. Technical and Scientific Service.

- a. EZZAT, ABD ELMONEIM, 1945.—“Helminth parasites of some ungulates from the Giza Zoological Gardens, Egypt. With an appendix on some nematodes from the African rhinoceros.” No. 241, 104 pp.

(189a) This thesis gives systematic descriptions of 5 trematodes, 1 cestode and 18 nematodes collected from wild animals dying in the Giza Zoological Gardens, Cairo. There is a host-list, with geographical distributions and periods of captivity. Most of the forms described are well known species but a new subgenus of *Chiorchis* is suggested, but not named, for a parasite from the hippopotamus which the author thinks may be identical with *Macropharynx sudanensis*. The only cestode species found is named *Avitellina nagatyj* n.sp. from an arawi sheep, *Ammotragus lervia*. “The external position of the dorsal excretory canal to the ventral excretory canal differentiates it from all others in the genus” except from *A. pintneri* and *A. aegyptiaca*. In the former the canal atrophies, the paruterine organs are oval and overlap into the neighbouring segments; from the latter the new species differs in that it shows external segmentation and the paruterine organs are arranged in alternating rows when fully developed. An appendix deals with 10 nematodes of the African rhinoceros (*Rhinoceros bicornis*) of which *Habronema khalili* is new. It is said to resemble *H. urophasiana* from the sage grouse closely. R.T.L.

## 190—Bulletin du Musée Royal d'Histoire Naturelle de Belgique.

- a. CONINCK, L. A. P. DE, 1945.—“*Pseudonchus symmetricus* de Coninck, 1942 (Nematoda—Choanolaemidae), un nématode à symétrie bilatérale secondaire de l'extrémité antérieure.” 21 (22), 12 pp.

(190a) de Coninck gives an illustrated account of the anatomy of *Pseudonchus symmetricus* de Coninck, 1942, a marine nematode exhibiting bilateral symmetry of the anterior region. T.G.

## 191—Bulletin de la Société de Pathologie Exotique.

- a. GUILHON, J., 1945.—“Essais de traitement des oxyuroses par la thioldiphénylamine.” 38 (9/10), 279-288.  
 b. DESCHIENS, R. & LAMY, L., 1945.—“Données expérimentales et pratiques sur les propriétés anthelminthiques de la phénothiazine (thioldiphénylamine), et de ses dérivés.” 38 (9/10), 288-299.  
 c. DOLLFUS, R. P., 1945.—“A propos du nom à donner à la filaire de l'onchocercose, *Onchocerca volvulus* et non pas *Onchocercus volvulus*.” 38 (9/10), 310-311.  
 d. TISSEUIL, J., 1945.—“Troubles de la vue et onchocercose cutanée au Sénégal.” 38 (9/10), 311-312.  
 e. DESCHIENS, R. & COTTET, J., 1945.—“Étude expérimentale des acides et des sels biliaires dans l'oxyurose.” 38 (11/12), 341-344.



(191a) Guilhon finds phenothiazine highly efficacious against oxyurids and related nematodes. At the rate of 5 cg. per Kg. live weight it is effective against *Oxyuris* in horses, *Passalurus* in rabbits, and *Enterobius* in man. For *Heterakis* and *Ascaridia* in fowls it is necessary to increase the rate 5 to 10-fold. It is pointed out that the dosage for man (3 or 4 gm. on each of 3 days) is far below the 40 gm. which has been reported as toxic, yet in all 22 cases the pruritus ani had disappeared between the 1st and 4th days after treatment and, although in 4 cases the infestation recurred after 2 to 4 months, this was almost certainly due to reinfestation.

B.G.P.

(191b) Deschiens & Lamy find that, for normal adults, 4 to 6 cg. of phenothiazine per Kg. live weight can be given daily for 3 to 5 consecutive days, without fear of toxic effect. In children the margin between effective and toxic doses is too small for general recommendation of this drug. Preliminary tests suggest that anthelmintic value may be found in the following derivatives: methylphenothiazine, ethylphenothiazine, tetrachlorophenothiazine, methylene blue, thionin, and thionol.

B.G.P.

(191d) Tisseuil records a high incidence of cutaneous and ocular onchocerciasis amongst villagers in the region of Kedougou, near the river Gambia in Senegal. In one village of 50 inhabitants, 60% had affected skin and microfilariae in skin specimens examined, and 22% had eye trouble believed to be onchocercal in origin. The character of the eye affections in individual cases is described briefly.

J.J.C.B.

(191e) The authors investigated the anthelmintic properties of various bile salts and bile acids with a view to their possible value in human enterobiasis. Four preparations were tested, viz., sodium dehydrocholate, sodium desoxycholate, sodium cholate and Plattner's bile (a mixture of taurocholate and glycocholate in soda solution). Each salt was tested against (i) *Rhabditis macrocerca*, (ii) *Haemonchus contortus* larvae, and (iii) *Syphacia obvelata*. Malachite green, basic fuchsin or crystal violet solution at dilutions of 1 : 3,000 kills *Rhabditis* in 72 hours and *Haemonchus* larvae in less than 24 hours, while *Syphacia* disappear from mice after 8 to 10 days. With sodium dehydrocholate, 92% of *Rhabditis* were living on the 4th day; 40% of *Haemonchus* larvae were killed in 24 hours and 85% in 48 hours; oxyurids were found in 5 mice killed on the 11th day after 1 c.mm. of 2% solution of the salt had been given "per anum" for 10 consecutive days. With sodium desoxycholate 98% *Rhabditis* were living on the 4th day, 10% of *Haemonchus* larvae were killed over 24 hours, and 59% in 48 hours. There was no action on the oxyurids. With sodium cholate 96% *Rhabditis* were living on the 4th day; 10% *Haemonchus* larvae were killed in 48 hours. There was no action on the oxyurids. With Plattner's bile there was no action. While sodium dehydrocholate is the most toxic to *Rhabditis* and *Haemonchus* it is the least toxic to small mammals. The authors consider that sodium dehydrocholate can only be recommended in the treatment of enterobiasis as an adjuvant, and that the beneficial action of bile salts in this infection is due to indirect action by stimulating the flow of digestive juices. In the intervals of treatment with triphenylmethane derivatives sodium dehydrocholate may be given in doses of 1 to 2.50 gm. (adults) and 0.3 to 1.2 gm. (children).

S.G.C.

## 192—Bulletin of the United States Army Medical Department.

- a. ANON, 1945.—"Schistosomiasis japonica in Leyte." No. 87, p. 32.
- b. VERMOOTEN, V., 1945.—"The diagnosis of schistosomiasis." No. 87, pp. 104-109.
- c. ANON, 1945.—"Chlorination of water to destroy *Schistosoma japonicum* cercariae." No. 89, p. 13.
- d. ANON, 1945.—"Laboratory diagnosis of infection with *Schistosoma japonicum*." No. 89, pp. 73-75.

(192a) The occurrence of Schistosomiasis japonica in U.S. troops in Leyte, Philippine Islands is officially announced.

R.T.L.

(192c) In endemic areas the application of sufficient chlorine to water used for bathing, drinking or laundry purposes to provide one part per million residual chlorine at the end of 30 minutes contact affords protection against *Schistosoma japonicum* and *S. mansoni* cercariae.

R.T.L.

(192d) Many *Schistosoma japonicum* eggs first passed after infection are immature and do not contain ciliated miracidia. Zinc sulphate flotation is not satisfactory. Direct smear examination of faeces should be supplemented by sedimentation and egg hatching techniques. In the acid-ether technique 1 gm. of faeces is emulsified in 5 c.c. of HCl (40%) in a small vial, then filtered through 2 layers of moist gauze stretched over a 50 mm. funnel into a 15 c.c. centrifuge tube. An equal quantity of ether is added, the tube is stoppered with a gloved finger and thoroughly shaken, then centrifuged for one minute at 1,500 r.p.m. The debris at the acid-ether junction is loosened by ringing with a clean applicator and the acid and ether layers are discarded. The sediment in the few remaining drops of fluid is stirred and examined microscopically. R.T.L.

### 193—Canadian Insect Pest Review. Department of Agriculture, Canada.

- a. BAKER, A. D., 1945.—“Records of plant-parasitic nematodes in the Dominion of Canada.” 23 (1), Suppl. pp. 141–153.

(193a) Baker has brought together all the available records of plant parasitic nematodes reported from Canada. After a general introduction, dealing with the more important eelworm parasites of plants found in Canada, he sets out the detailed records under provinces, proceeding from east to west, with name of host plant, recorder, date and reference. *Heterodera schachtii* has been located in sugar-beet in Ontario, a single occurrence at Glencoe and a more general infestation near Sarnia. *H. avenae* is rather widely spread in southern Ontario and constitutes a serious problem. *H. marioni* infests over half the farms in the Blackwell district of Sarnia township and is widely distributed in southern and eastern Ontario. It has also been recorded from Prince Edward Island, Nova Scotia, New Brunswick, Quebec and British Columbia. *H. punctata* in wheat has been reported from Saskatchewan and Alberta. *Anguina agrostis* has been identified from grasses in Saskatchewan and is apparently rather prevalent in Nova Scotia. *Pratylenchus pratensis* has been found in Ontario, Manitoba and British Columbia. *Ditylenchus dipsaci* frequently attacks greenhouse plants in Canada and has been recorded as a field infestation from British Columbia. *Aphelenchoides fragariae* has been reported from time to time on strawberries. In an appendix are set out records of plant parasitic eelworms found by the U.S. Division of Nematology in material received from Canada. R.T.L.

### 194—Canadian Journal of Comparative Medicine.

- a. CHOQUETTE, L. P. E., 1945.—“Observations on the incidence of the common stomach worm, *Haemonchus contortus*, in young cattle in a Montreal abattoir.” 9 (12), 330–331.

(194a) Although *Haemonchus contortus* is of immense importance as a parasite of sheep in Canada, it is rarely encountered in cattle in Quebec, Ontario and the Prairie Provinces. Of 300 animals from these regions examined by Choquette at a Montreal abattoir only 2, i.e. 0.66%, were infected and these only lightly so. R.T.L.

### 195—Canadian Journal of Public Health.

- a. KUITUNEN-EKBAUM, E., 1945.—“The incidence of pinworm infection in a military camp in Ontario.” 36 (11), 430–431.

(195a) NIH swabs of 150 servicemen in a military camp in Ontario were positive for *Enterobius vermicularis* in 5 instances. On the average 4 swabs per person were examined. R.T.L.

### 196—Circular. Kentucky Agricultural Experiment Station.

- a. HULL, F. E., 1945.—“Pregnancy disease of ewes. Causes, symptoms, treatment and prevention.” No. 57, 8 pp.

(196a) Pregnancy disease of ewes in Kentucky is an acetonaemia, sometimes fatal, involving engorged liver and kidneys, and ascribed to malnutrition, which in turn may be exacerbated by helminths. B.G.P.



## 197—Circular. West Virginia Agricultural Experiment Station.

- \* a. RIETZ, J. H. & WILSON, C. V., 1945.—“Early and late treatment of market lambs for gastrointestinal parasites.” No. 80, 4 pp.

(197a) Rietz & Wilson record that treatment of lambs prior to weaning with 1.5% copper sulphate solution either alone or mixed with 1.5% nicotine sulphate, for control of stomach and intestinal worms, had a negligible effect either on gain, grading or dressed yield. Both solutions were effective against tapeworm but phenothiazine appears to be better than either. [From an abstract in Exp. Sta. Rec., 93, p. 500.] D.F.

## 198—Clinical Proceedings. Journal of the Cape Town Post-Graduate Medical Association.

- a. EDITORIAL, 1945.—“Threadworm infections.” 4 (1), 30-31.

## 199—Comptes Rendus des Séances de l'Académie des Sciences. Paris.

- a. BRUMPT, E., 1945.—“Cycle évolutif du trématode *Leptophallus nigrovenosus*, parasite de la couleuvre à collier (*Tropidonotus natrix*) et, expérimentalement, de la vipère (*Vipera aspis*).” 221 (19/22), 673-675.

(199a) Brumpt has traced the life-cycle of *Leptophallus nigrovenosus*, adult in the mouth and oesophagus of the grass snake. The first intermediary is *Limnaea stagnalis*, *L. limosa*, or *L. palustris*, the xiphidiocercariae discharged from which penetrate into the tissues of tadpoles (frogs, toads, newts) where they metamorphose into very characteristic metacercariae, having a large calculus in each of the three lobes of the excretory bladder. The small tadpoles of *Alytes obstetricans* or *Molge palmata* are rapidly killed by a few hundred cercariae. An adder, normally protected by its food habits, was artificially infected with the adult. [A more detailed account appears in Ann. Parasit. hum. comp., 20, 244-262.] B.G.P.

## 200—Comptes Rendus des Séances de la Société de Biologie. Paris.

- a. DESCHIENS, R. & LAMY, L., 1945.—“Sur les propriétés anthelminthiques de quelques dérivés de la diphenylamine.” 139 (9/10), 447-449.  
b. SEURAT, L. G., 1945.—“Peuplement des eaux continentales de la Tunisie.” 139 (15/16), 734-736.

(200a) Deschiens & Lamy found phenothiazine, methylphenothiazine, and ethylphenothiazine effective against (i) *Rhabditis macrocerca* in vitro, (ii) *Aspiculuris tetraptera* in mice, and (iii) *Passalurus ambiguus* in rabbits. The soluble diphenylamine derivatives, methylene blue and thionin were toxic to the hosts at effective dosages. B.G.P.

(200b) Seurat recalls that the molluscan vector of liver-fluke of cattle, sheep and rarely of man is common in the Tunisian area between the coast and the Nefta marsh. The *Bullinus* spp. vectors of *Schistosoma haematobium* abound in the irrigation canals of Gafsa, Nefzaoua, El Oudiane and Matmata. R.T.L.

## 201—Current Science.

- a. SARWAR, M. M., 1945.—“Two new records and a new species of the genus *Trichuris* from domestic ruminants.” 14 (11), 306-307.

(201a) Sarwar records the presence of *Ostertagia pinnata* from sheep in Mukteswar, and *O. grühneri* from cattle also in Mukteswar. *Trichuris ovina* n.sp. described from sheep and goats in the Punjab and United Provinces resembles *T. parvoispiculum* and *T. discolor* but can be distinguished by the truncated end of the spicule, the shape of the sheath, and by the distribution of the spines. P.A.C.

\* Titles so marked throughout this number have not been seen in the original.

## 202—Danish Review of Game Biology.

- a. MADSEN, H., 1945.—“The species of *Capillaria* (nematodes, Trichinelloidea) parasitic in the digestive tract of Danish gallinaceous and anatine game birds, with a revised list of species of *Capillaria* in birds.” 1 (1), 1-112.

(202a) Madsen reviews the species of *Capillaria* occurring in birds with particular reference to those found in Danish gallinaceous and anatine birds. He has been concerned with 12 species, 6 from gallinaceous, 5 from ducks, coot and goose, and one from pheasant and ducks. There are 3 new species. *C. tiaras* n.sp. from partridge chicks resembles *C. ornata* and *C. longevaginata* from larks. Neither species seems to be well known but there appear to be distinguishing features in the shape and length of the spicules. It may be that the partridge is not the typical host of *C. tiaras*. *C. cadovulvata* n.sp. from partridge and pheasant appears to lack a bacillary band. The length of the spicule, size of “bursa” and the spines on the spicular sheath are some of the characteristic features. *C. nyrocinarum* n.sp. from a number of diving ducks has spicules irregularly chitinated, a sheath with coarse spines, and a large cloacal aperture with a pair of well defined lobes. *Capillaria obsignata* nom.nov. for part of *C. columbae*, *C. anseris* nom.nov. for *C. anatis*, and *C. mergi* nom.nov. for part of *C. anatis* are considered. *C. dujardini* would appear to be the correct name for part of *C. columbae*. P.A.C.

## 203—Día Médico.

- a. PECO, G., 1945.—“Quiste hidático mediastino-pulmonar del vértice derecho.” 17 (4), 61-63.  
b. PALADINO, J. E. & SAPOCHNIK, M., 1945.—“Absceso frío hidático.” 17 (12), 231-233.

## 204—East African Medical Journal.

- a. DICK, G. W. A., 1945.—“Routine stool examination.” 22 (7), 237-240.

(204a) Reporting on the examination of stools from 3,000 East African troops (Askaris), Dick shows that no parasite had a very high incidence; of the helminths, the commonest was *Strongyloides* (5.8%) and next *Taenia saginata* (5.3%). In 400 British troops and 400 Italians, the incidence of helminths was lower, but of about the same relative order. B.G.P.

## 205—Fauna och Flora.

- a. PALM, N. B., 1945.—“*Sphaerularia bombi* Dufour, en märklig och för Sverige ny rundmask.” 40th Year, No. 6, 266-274. [English summary pp. 273-274.]

(205a) *Sphaerularia bombi* is now reported from Sweden for the first time. 56% of 86 female wild bees were infected. All infected specimens found were females and had been rendered sterile. This, according to the author, indicates probably a disturbance in the hormonal regulation of the development of the genital organs. R.T.L.

## 206—Harper Adams Utility Poultry Journal.

- a. TEMPERTON, H. & DUDLEY, F. J., 1945.—“The use of phenothiazine in the control of worms among laying pullets.” 30 (3), 37-41.

(206a) Temperton & Dudley have investigated the effect of adding phenothiazine to the mash of laying pullets. It appeared to have no anthelmintic effects on ascarid worms and low doses of 6.3 oz. per 100 lb. mash had no effect on any helminth. P.A.C.

## 207—Hawaii Farm and Home.

- \*a. MATSUURA, M., McFARLANE, J. S., FRAZIER, W. A. & BOYD, J. H., 1945.—“D-D nematode nemesis; this recently discovered fumigant easily controls the tiny, almost invisible eelworms that do so much damage in Hawaii.” 8 (8), 27.

## 208—Health Education Journal. London.

- a. LAPAGE, G., 1945.—“Animal parasites.” 3 (1), 26-32.



**209—Indian Farming.**

- a. EDITORIAL, 1945.—“Warfare against worm parasites of animals: a changing outlook.” 6 (11), 493-494.

**210—Indian Journal of Medical Research.**

- a. HYNES, M., ISHAQ, M. & MORRIS, T. L., 1945.—“Anaemia in Indian army recruits.” 33 (2), 271-284.

**211—Journal of the American Medical Association.**

- a. LOWSLEY, O. S. & CURTIS, M. S., 1945.—“The surgical aspects of cystic disease of the kidney.” 127 (17), 1112-1119.  
 b. MOST, H., 1945.—“Intestinal parasite survey of repatriates from the Far East.” 129 (1), 24-26.  
 c. MILLER, S. E., 1945.—“*Schistosoma hematobium* infection.” 129 (5), 344-347.

(211b) Examination of stools and blood films from 144 persons from the repatriation ship Gripsholm, which conveyed missionaries from the Far East, gave an incidence of 11.8% *Ascaris lumbricoides*, 22.9% *Trichuris trichiura* and 0.7% *Enterobius vermicularis*. Filaria infections were not detected. R.T.L.

(211c) A case of *Schistosoma haematobium* in an Egyptian admitted to a Baltimore hospital is described. Attention is drawn to the fact that symptoms may not develop for some months after exposure to infection and that a number of infected service personnel may return to the U.S.A. R.T.L.

**212—Journal of Biological Chemistry.**

- a. VELJICK, S. F., 1945.—“The chemistry of *Cysticercus fasciolaris*. III. The composition of the acetone-soluble fat of transplanted rat tumors initiated by *Cysticercus fasciolaris*.” 159 (3), 711-723.

(212a) [See also Helm. Abs., Vol. VIII, No. 327a, Vol. X, No. 247a.]

**213—Journal of Clinical Investigation.**

- a. ROSE, H. M., CULBERTSON, J. T. & LIPMAN, M. O., 1945.—“Antistreptolysin titers in cases of filariasis with recurrent lymphangitis among military personnel.” 24 (4), 532-535.

(213a) Rose et al. have examined the blood serum of patients suffering from recurrent lymphangitis and have found a high level of antistreptolysin. These patients were all probable carriers of filarial worms and it is suggested that in some cases at least, the factor for the antistreptolysin level was the nematode and not a streptococcal infection. P.A.C.

**214—Journal of the Department of Agriculture. Victoria.**

- a. PREWETT, L. P., 1945.—“Worm infestation of calves.” 43 (9), 382.  
 b. NICOL, G., 1945.—“Phenothiazine for worm treatment in sheep, cattle and horses.” 43 (12), 510-511.

(214a) Losses in young cattle due to trichostrongyle infection have been reported recently from many districts of Victoria, Australia. The worst outbreaks occur in autumn, winter and early spring. Badly infected stock develop a profuse dark diarrhoea, lose condition rapidly, become hidebound and anaemic, and often die within a few weeks. Drenching three times at fortnightly intervals with dispersal preparations of phenothiazine is recommended. R.T.L.

**215—Journal of Economic Entomology.**

- a. SWAIN, R. B., 1945.—“The association of nematodes of the genus *Diplogaster* with white-fringed beetles.” 38 (4), 488-490.

(215a) Swain reports on investigations which have been carried out in the Southeastern States of U.S.A. on the association between white-fringed beetles, *Pantomorus* spp., and nematodes of the genus *Diplogaster*. The nematodes, including *D. aerivora* and an undetermined

species of the genus, have been found within living beetles and beetle larvae, being capable, under certain undetermined conditions, of parasitizing both. The third stage ensheathed larva is the infective stage and, being provided with a sticky cuticle, it can be carried about on beetle larvae in folds of the skin and under the elytra or close to the base of leg joints of adult beetles. The nematode larvae come to sexual maturity and reproduce when the beetle or larva to which they are attached dies and they can enter its tissues either through the mouth or the anus or some lesion in its integument. Particulars are given about a nutrient agar medium on which the nematodes can be cultivated. T.G.

## 216—Journal. Éire Department of Agriculture.

- a. ANON, 1945.—“ ‘Gid’ (Coenurosis cerebri). ” 42 (2), 249–251.

## 217—Journal of the Fisheries Research Board of Canada.

- a. MILLER, R. B., 1945.—“ Effect of *Triaenophorus* on growth of two fishes.” 6 (4), 334–337.

(217a) *Triaenophorus crassus*, of which the plerocercoids infect *Coregonus clupeaformis* and *Leucichthys tullibee* in Canada, is of considerable economic importance there, for the fish when parasitized are shorter and lighter. The heavily infected fish grow somewhat more slowly than those lightly infected. The effect is greatest in fish four years old. The tullibee in Lesser Slave Lake show over 90% infection with an average of 9 cysts per fish while infection of the whitefish averages 30% with about 3 cysts per fish. R.T.L.

## 218—Journal of Infectious Diseases.

- a. OLIVER-GONZÁLEZ, J. & HERNÁNDEZ MORALES, F., 1945.—“ Common antigens among filarial and other nematode parasites of man.” 77 (2), 92–95.

(218a) Oliver-González & Hernández Morales have experimental evidence suggesting that the intradermal test for filariasis can only be used satisfactorily when other nematode infestations are absent. Antigens were made from *Litomosoides carinii*, *Dirofilaria immitis* and *Wuchereria bancrofti* and were used to test a group of patients with *Mf. bancrofti* in the circulating blood and a control group without microfilariae but with other nematodes. There was no significant difference between the 2 groups. Negative results were, however, obtained in a third group which had neither microfilariae nor intestinal nematodes. P.A.C.

## 219—Journal of Mammalogy.

- a. STONER, D., 1945.—“ Further remarks on the opossum in New York.” 26 (2), 192–193.  
b. WILSON, L. W., 1945.—“ Parasites collected from wood mouse in West Virginia.” 26 (2), 200.

(219a) Stoner mentions *Physaloptera ackerti* as occurring in an opossum from New York State; about 25 worms varied in length from 10 mm. to 35 mm. This mammal is slowly extending its range northwards. B.G.P.

(219b) In a brief note dealing mainly with ectoparasites, Wilson records *Rictularia* sp. from the stomach of 10% of 130 *Peromyscus leucopus noveboracensis* in West Virginia. B.G.P.

## 220—Journal of Parasitology.

- a. HUNTER, III, G. W. & WORTH, C. B., 1945.—“ Variations in response to filariform larvae of *Ancylostoma caninum* in the skin of man.” 31 (6), 366–372.  
b. BRAND, T. VON, 1945.—“ Physiological observations upon a larval *Eustrongylides*. VIII. Influence of respiratory poisons upon the aerobic gaseous metabolism.” 31 (6), 381–393.  
c. GOBLE, F. C. & KUTZ, H. L., 1945.—“ Notes on the gapeworms (Nematoda: Syngamidae) of galliform and passeriform birds in New York State.” 31 (6), 394–400.  
d. REID, W. M., 1945.—“ Comparison between in vitro and in vivo glycogen utilization in the fowl nematode *Ascaridia galli*.” 31 (6), 406–410.  
e. MANTER, H. W., 1945.—“ *Dermadena lactophrysi* n.gen., n.sp. (Trematoda: Lepocreadiidae) and consideration of the related genus *Pseudocreadium*.” 31 (6), 411–417.



- f. LYNCH, J. E., 1945.—"Redescription of the species of *Gyrocotyle* from the ratfish, *Hydrolagus coliei* (Lay and Benner), with notes on the morphology and taxonomy of the genus." 31 (6), 418-446.
- †g. WOODHEAD, A. E., 1945.—"The life-history cycle of *Diocotophyma renale*, the giant kidney worm of man and many other mammals." 31, Suppl. p. 12.
- †h. BYRD, E. E., 1945.—"Epidemiological investigations on filariasis on certain islands of the South Pacific area." 31, Suppl. p. 13.
- †i. HUNTER, III, G. W., BOZICEVICH, J. & WARREN, V. G., 1945.—"Studies in filariasis. II. A skin test for Filariasis bancrofti utilizing antigen prepared from microfilariae of *Wuchereria bancrofti*." 31, Suppl. p. 13.
- †j. CRAM, E. B. & FILES, V. S., 1945.—"Laboratory studies on the snail of *Schistosoma mansoni*." 31, Suppl. p. 14.
- †k. WRIGHT, W. H., 1945.—"A group research project on biological phases of *Schistosoma japonicum* and *S. mansoni* infections." 31, Suppl. pp. 14-15.
- †l. WICKLEN, J. H. VON, 1945.—"A new species of *Opecoeloides* (Trematoda: Opecoelidae) from the threadfin fish, *Polynemus octonemus*." 31, Suppl. p. 15.
- †m. SCOTT, J. A. & CROSS, J. B., 1945.—"Tumor formation as a reaction to *Litomosoides carinii*, a filariid of the cotton rat." 31, Suppl. pp. 15-16.
- †n. JONES, A. W. & WARD, H. L., 1945.—"The application of cytological techniques to cestodes and other helminth material." 31, Suppl. p. 16.
- †o. HERMAN, C. M. & BISCHOFF, A. I., 1945.—"Preliminary report on the distribution of *Onchocerca cervipidis*." 31, Suppl. p. 16.
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- †u. BEAVER, P. C., 1945.—"Immunity to *Necator americanus* infection." 31, Suppl. p. 18.
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- †bj. ALLEN, R. W., 1945.—"The thermal death point of *Cysticercus bovis*." 31, Suppl. p. 21.
- †bk. WANTLAND, W. W., BARDES, C. L. & LEVINE, R. S., 1945.—"The nature of the mechanism of encapsulation in trichiniasis." 31, Suppl. pp. 21-22.
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- †bo. GOODCHILD, C. G., 1945.—“Additional observations on the life history of *Gorgodera amplivava* Looss, 1899.” 31, Suppl. pp. 22–23.
- †bp. NIGRELLI, R. F., 1945.—“Studies on parasites of bassalian fishes.” 31, Suppl. p. 23.
- †bq. WARD, J. W., 1945.—“Parasite studies of quail, *Colinus virginianus* and *Colinus virginianus texanus*, in Mississippi.” 31, Suppl. p. 23.
- †br. WALTON, A. C., 1945.—“The nematode parasites of the Bufoninae (Amphibia—Salientia—Procoela—Bufonidae) I.” 31, Suppl. pp. 23–24.
- †bs. WALTON, A. C., 1945.—“The nematode parasites of the Bufoninae. II.” 31, Suppl. p. 24.
- †bt. WALTON, A. C., 1945.—“The nematode parasites of the Bufoninae. III.” 31, Suppl. p. 24.
- †bu. HERNANDEZ MORALES, F. & MALDONADO, J. F., 1945.—“The clinical diagnosis of Schistosomiasis mansoni by rectoscopic biopsy.” 31, Suppl. pp. 24–25.
- †bv. CULBERTSON, J. T. & PEARCE, E., 1945.—“Chemotherapy of filariasis (*Litomosoides carinii*) in the cotton rat by the administration of stibanose (=solustibosan).” 31, Suppl. p. 25.

(220a) Using the infective larvae of *Ancylostoma caninum* on 2 human volunteers, the authors give reasons and data for their opinion that the human subject varies constitutionally in his ability to arrest the invasion of a parasite which may be considered uniform within its species. One of the volunteers had a past history of allergy, the other had none. It would appear that while *A. brasiliense* burrows are characteristically continuous from the points of entry, those of *A. caninum* are discontinuous.

R.T.L.

(220b) A large part of the respiration of *Eustrongylides* larvae is due to an oxidase of the Warburg-Keilin type. There is little indication of the presence of aerobic hydrogenases. Von Brand gives the results of a detailed study of the influence of respiratory inhibitors and stimulants and data bearing on the question whether anaerobic processes can supplement the failing aerobic respiration when this is inhibited by poisons.

R.T.L.

(220c) Goble & Kutz record the presence of *Syngamus trachea* in meadowlarks and bronzed grackles in New York State and discuss the incidence, pathology, morphology and validity of the various species attributed to this genus. A key to the *Syngamus* species of galliform and passeriform birds differentiates *S. microspiculum*, *S. merulae*, *S. trachea* and *S. parvus*. Information on the Russian species reported by El'perin from *Carine noctua* in 1938 was not available to the authors.

R.T.L.

(220d) Utilization of glycogen reserve by *Ascaridia galli* seemed to be approximately the same during *in vivo* starvation and during anaerobic *in vitro* starvation. Males used rather more than females. It seems likely that *Ascaridia galli* uses up its glycogen relatively more quickly than does *Ascaris lumbricoides*.

P.A.C.

(220e) *Dermadena lactophrysi* n.g., n.sp. is described by Manter from the intestine of Trunk fishes from Florida: *Lactophrys tricornis*, *L. trigonis* and *L. triqueter*. The genus is very near to *Pseudocreadium*, but differs in having rows of ventral papilliform glands, similar to those of Notocotyliidae—the possible relationship of this family to Lepocreadiidae is discussed. The genus *Pseudocreadium* is compared with *Lepocreadium*, to which *P. sohali*, *P. elongatum* and *P. vitellosum* are transferred on the basis of their having diagonally placed testes. *Distomum lamelliforme* Linton, from *Balistes capriscus*, is referred to *Pseudocreadium*, and *P. galapagoensis* n.sp. is described from the intestine of *Balistes verres* in which it occurs with *P. scaphosomum*, in the Galapagos area.

N.G.S.

(220f) Lynch gives a detailed redescription of *Gyrocotyle fimbriata* and *G. urna*, from the spiral valve of *Hydrolagus colliciei*, from Puget Sound and the Washington Coast of America. Two forms of *G. urna* are distinguished by the size of the acetabular spines. The decacanth larva and early post-larvae are described and figured. The presence of developing post-larvae in the parenchyma at a spot near the anterior end of older worms was found to occur more frequently than would be likely by chance; moreover, the existing evidence is opposed to intermediate hosts in the life-cycle which, however, is incompletely known. The genotype *G. rugosa*

† Abstract of a paper prepared for the 20th Annual Meeting of the American Society of Parasitologists, Saint Louis, Missouri, March 28, 29 and 30, 1946.



Diesing is discussed and a provisional diagnosis given. *G. maxima* MacDonagh and *Gyrocotylodes nybelini* Fuhrmann are regarded as *species inquirendae*. An attempt is made to separate some of the composite descriptions of *Gyrocotyle* spp. occurring in the earlier European literature. N.G.S.

(220g) Two years are required for the completion of the life-cycle of *Diectophyme renale*. At room temperature the eggs contain infective larvae in 6 months. These hatch in the gut of branchiobdellids parasitic on crayfish, and after penetrating into the body cavity encyst in the tissues as gordius-like larvae in about 10 days. When *Ameiurus melas melas*, the northern black bullhead, eats the infected branchiobdellids the excysted *Diectophyme* larvae migrate into the mesenteric tissues and again encyst, the head of the second stage larva shrivels and a third stage head and other adult characters become apparent. The feeding of ferrets on infected bullheads resulted in the recovery of adult *Diectophyme*. R.T.L.

(220h) In the South Pacific area aperiodic filaria occurs throughout Polynesia and is transmitted by *Aedes pseudoscutellaris*. Periodic filaria occurs in Melanesian populations and is spread by *Anopheles farauti*. Up to 35% of *A. pseudoscutellaris* harbour developing filaria larvae. In one village *A. farauti* showed 80% infection. Microfilariae are rare in children under 3 years of age. The incidence increases to 40% at 50 years old and over. R.T.L.

(220i) Using the intradermal test Hunter et al. find that an antigen made from *Microfilaria bancrofti* is as sensitive as, and more specific than, one made from *Dirofilaria immitis*. False positive results did not occur among men carrying *Strongyloides stercoralis*, *Ascaris lumbricoides*, hookworm, *Hymenolepis nana* and *Schistosoma japonicum*. P.A.C.

(220j) With *Schistosoma mansoni*, obtained from Puerto Rico, sporocysts and cercariae were experimentally developed in *Tropicorbis* sp. from Louisiana and mice were successfully infected therefrom. Only a relatively few specimens of the mollusc were susceptible however. R.T.L.

(220k) This is a programme of research carried out by Wright and others but no results are reported. R.T.L.

(220l) Von Wicklen reports (without naming) a new species of *Opecoeloides* from *Polynemus octonemus*, distinguished by the arrangement of the 10 acetabular papillae. The genus is revised in relation to this character. Re-study shows that *Distomum vitellosum* Linton belongs to this genus, and that it is distinct from *Cymbephallus vitellosus* Linton. N.G.S.

(220m) Dead *Litomosoides carinii* were found in masses of reaction tissue in a cotton rat. R.T.L.

(220n) Chromosomes of cestodes, trematodes and Acanthocephala can be studied either in sections or in smear preparations. A number of stains are suitable for demonstrating them. P.A.C.

(220o) *Onchocerca cervipedis*, which is widely distributed in deer in California, congregates under the skin of the hock joint of the fore and hind feet. Its incidence varies from 49% to 81% in the areas sampled. No infection occurred in *Antilocapra americana* in the same area. R.T.L.

(220p) In experimentally infected cotton rats males of *Litomosoides carinii* reach 21 mm. and females 78 mm. in 10 weeks. Males reach half their length in rats 6 weeks old and females in about 8 weeks. R.T.L.

(220q) The authors studied 200 specimens of *Litomosoides carinii* from the Texas cotton rat, *Sigmodon hispidus texianus*. The worms varied in length from about 1 mm. to maximum sizes of 22 mm. for the male and 100 mm. for the female. A moult from the fourth larval stage to the adult stage occurs when the worms are between 7 and 10 mm. in length. After removal from the host, mature females can be stimulated to discharge in some cases oviform and in others vermiform larvae, while still others discharge both types. Artificially produced empty spaces have thus been left in the uterus. The vaginae of the worms have been observed to

contain one type of larvae or the other exclusively, or both types together. The need for extreme care in interpreting histological changes occurring after the worms have been subjected to various drugs, is pointed out. J.J.C.B.

(220r) Of the phenyl arsenoxides the p-amide substituted compounds regularly kill all adult *Litomosoides carinii* in cotton rats and are well tolerated by the host. P-arsenosobenzamide kills all adult *Dirofilaria immitis* in doses as low as 0.45 mgm.As/Kg. daily for 6 weeks while a more soluble neutral salt of this compound killed in 15 days. Neither chemical killed the microfilariae *in vivo* although lethal *in vitro* in 22 hours in a dilution of 1 : 800,000 in terms of arsenic. R.T.L.

(220s) A new trivalent arsenical compound, melarsen oxide, was administered experimentally by various methods to 18 patients with nocturnal microfilariae but without symptoms. The most favourable results followed the intravenous injection of 10 mg., the microfilariae disappearing in 6 to 7 months, but the drug must be used with caution. Severe toxic encephalopathy was observed in 2 cases. R.T.L.

(220t) Hawkins finds that infections with sheep strongyles vary with temperature and moisture [in Michigan, presumably]. Spring infections in ewes are partially thrown off, unless a wet summer causes heavy re-infection. In lambs the infections are heavier and about 3 months later. B.G.P.

(220u) Beaver was unable to produce immunity in the human subject to *Necator americanus* following an experimental infection. Subsequent infections produced increasingly severe cutaneous symptoms, but the increase in egg production was proportional to the number of larvae administered. P.A.C.

(220v) The author failed to infect himself with a hookworm from the cotton rat or produce creeping eruption after applying 150 infective larvae to the forearm, but was able to observe the larvae penetrating. Cotton rats were easily infected by giving them larvae in their drinking water. They could not be infected with *Necator americanus*. J.J.C.B.

(220w) Riedel & Ackert have shown that the hydrogen ion concentration in the intestine of chickens is not apparently a factor in the development of resistance to infestation with *Ascaridia galli*. P.A.C.

(220x) The effective dose of phenothiazine against *Heterakis gallinae* is lower for heavy than for light chickens; the anomaly may be due to variety of host rather than size. Limited tests showed also that while it is very effective in turkeys it is of doubtful value in pheasants. R.T.L.

(220y) There is evidence that cytochrome oxidase is lacking in the adult *Ascaris* of the pig. R.T.L.

(220z) The improvement in calves experimentally infected with nodular worm which results from anthelmintic treatment is a natural recovery from the severe effects produced by the larvae rather than from the elimination of adults. R.T.L.

(220ba) The resistance of mice to infestation with *Hymenolepis nana* var. *fraterna* may be due in part to the rapid rate at which the intestine empties itself. Carbon ink appears in the lower colon within 15 to 20 minutes but intestinal peristalsis is slowed down following parenteral administration of opium. In such animals there is an increased percentage development of cysticeroids probably due, in part at least, to the retarded passage of eggs. P.A.C.

(220bb) For the quantitative study of the metacercarial infection of fish a pepsin-digest technique was used. The highest natural infection so determined was 412 metacercariae per gram weight. R.T.L.

(220bc) In Texas medication for liver-fluke in cattle is most effective in the autumn. The intermediary *Stagnicola bulimoides techella* lives in temporary pools which occur usually during winter and early spring. Evidence has been obtained that the pastures become free from infective larvae during the summer. R.T.L.



(220bd) *Cercaria szidati* encysts in the muscles of minnows. When fed to chicks the worms mature in 3 days but the infection is thrown off within a week. The adults obtained belonged to an undescribed species of *Linstowiella* which, like the cercarial stage, is monostomatous since closely related species are typical holostomes. R.T.L.

(220bf, bg) This records that coloured "film strips" of the salient features of schistosome infections in man and their diagnosis in the laboratory are being made available to all interested teaching institutions and educational groups by the Training and Education Division of the U.S. Public Health Service. R.T.L.

(220bh) The acid-ether technique is superior to others in the diagnosis of schistosome eggs in the faeces. A new modification of the acid-Triton NE-ether method consisting of 2.5 c.c. HCl, 2.5 c.c. Na<sub>2</sub>SO<sub>4</sub>, 0.06 c.c. of Triton NE and 5 c.c. of ether in limited tests appeared to be still better than accepted methods. R.T.L.

(220bi) In natives of the central Philippine archipelago small numbers of microfilariae can be demonstrated in the blood in daylight and relatively larger numbers at night. Avery therefore supports the contention that there is here a modified nocturnal type of periodicity. R.T.L.

(220bj) In order to kill all *Cysticercus bovis* in pieces of flesh it is necessary to raise the internal temperature to at least 56°C. Viability tests showed survival at 55°C. R.T.L.

(220bk) The swelling following invasion of a muscle fibre by a *Trichinella* larva induces pressure necrosis of surrounding fibres. The interfascicular connective tissue undergoes hypertrophy and a delicate parietal layer forms which is the beginning of a fibrosis which forms the cyst. R.T.L.

(220bl) The Feulgen-Bauer reaction proved the most reliable for demonstrating the location of glycogen in *Ostiolum* sp. of *Rana pipiens*. Glycogen was determined in muscle tissue, eggs and parenchyma, and appeared to be absent in cuticle, excretory ducts, seminal receptacle, testis and vitellaria. R.T.L.

(220bm) Wilmoth & Levitas have shown that *Ostiolum* sp. from the lungs of *Rana pipiens* utilizes oxygen from its environment when the worms were kept in a closed system with frog Ringer. Fresh worms showed an equal rate of oxygen consumption to those kept *in vitro* for up to 5 days, when the Winkler method was used. They were also capable of reducing methylene blue in the absence of free oxygen. Motility was retained *in vitro* for over 7 days in both aerobic and anaerobic conditions. N.G.S.

(220bn) In revising the genus *Axine*, Price has drawn attention to the hitherto unrecorded presence of a minute hook-bearing lappet on the mid-haptoral region of some species (including the genotype); this character, together with the U-shaped ovary, the genital armature, and the vaginal spine unite species of *Axine* and relatives in the subfamily Axininae. The genera recognized are: *Axine* s.str., *Axinoides* Yamaguti, and *Neoaxine* n.g. (separated from *Axine* by the incomplete circle of genital spines). Name changes include: *Cestracolpa* Meserve as synonym of *Axine* Abildgaard; *Axine japonicum* n.n. pro *A. cypseluri* of Yamaguti, (non of Meserve); *Axinoides meservei* n.n. pro *A. aberrans* of Meserve, (non of Goto). N.G.S.

(220bo) Goodchild's restudy of the life-history of *Gorgoderia amplicava* shows that there is a marked specificity of the miracidium (with epidermal plate formula of 6:6:3) for penetrating the gill tissue of the bivalve species *Musculium partumetum*, in the Cape Cod region; and that the cercariae are up to 17.4 mm. long. *Physa* sp. and tadpoles of *Rana* spp. and *Hyla* sp. are natural metacercarial hosts: experimental hosts included *Ambystoma* sp. and larvae of the dragonfly *Enallagma*. Proved definitive hosts—in which the excysted worms arrived in the excretory ducts—included *Rana* spp., and excysted worms were found in the oviduct of *Ambystoma* sp. Though normal excystment occurred in *Triturus viridescens*, the worms became entrapped in the mucus covered faecal pellets and quickly voided—a possible explanation of the "immunity" of some amphibia to Gorgoderid worms. N.G.S.

(220bp) Nigrelli has examined certain rare deep sea fish for parasites but only *Echiostoma tanneri* contained any: larval nematodes of a single species of the Anisakinae were encysted in the body cavity. They are described but could not be identified. P.A.C.

(220bq) *Colinus virginianus* and *C. virginianus texanus* collected in Mississippi during 5 years have been examined for parasites. Infestation was heaviest during 1941 to 1942. Internal parasites have been identified as follows: *Heterakis gallinae*, *H. bonasae*, *Subulura brumpti*, *Seurocyrnea colini*, *Habronema pileata*, *Syngamus trachea*, *Trichostrongylus pergracilis*, *Railletina cesticillus*, *Hymenolepis carioca*, *Rhabdometra odiosa* and some species of Coccidia. P.A.C.

(220br, bs, bt) Walton gives a list of nematode parasites which have been reported from 24 species of the Bufoninae, mainly *Bufo*. The records include none from Australia. P.A.C.

(220bu) Rectoscopic biopsy, especially in very light infections, is a marked improvement in the diagnosis of Schistosomiasis mansoni. A fragment of mucosa (the size of a grain of rice) from the anterior half of the rectum is examined for eggs after pressure between two slides. R.T.L.

(220bv) As the microfilariae of *Litomosoides carinii* in cotton rats can be eradicated by repeated administration of stibanose, its trial for the treatment of human filariasis is strongly indicated on account of the tolerance of man to this drug. R.T.L.

## 221—Journal of Pediatrics.

- a. BROWN, R. L., 1945.—“Correlation of symptomatology with enterozoic parasitism in children.” 26 (3), 291–295.

## 222—Journal of the Royal Army Veterinary Corps.

- a. BOTTOM, F., 1945.—“Meat inspection in the Middle East.” 16 (4), 236–237.  
b. BLOUNT, W. P., 1945.—“Hydatid cysts in the horse.” 17 (1), 23–24.

(222a) *Cysticercus bovis* is responsible for by far the greatest wastage by condemnation during meat inspection by the Royal Army Veterinary Corps of cattle in Syria. The best beef breed, notably the small black cattle of Syria and Turkey, were among the most heavily infested. *Fasciola hepatica* and *Dicrocoelium dendriticum* in ox and sheep were also common causes of condemnation. R.T.L.

(222b) Brief descriptions are given of 2 cases of hydatid in the horse. R.T.L.

## 223—Journal of the Royal Egyptian Medical Association.

- a. KHALIL, M., HALAWANI, A. & NOR EL DEEN, G., 1945.—“The problem of post-antimony jaundice in Egypt.” 28 (5), 192–206.  
b. HILMY, I. S., 1945.—“The effect of the flooding method of sewage disposal on the viability of the eggs of *Ascaris tenbricoides*.” 28 (5), 207–214.

(223a) Khalil et al. record a high incidence of jaundice following mass intravenous injections of schistosomiasis cases with tartar emetic. This appears to be due to the transference of blood from one person to another via improperly sterilized syringes. Thorough cleansing and sterilization of syringes resulted in jaundice being completely prevented in so far as it was a complication of antimony treatment. D.F.

(223b) The State Sewage Farm at Khanka receives daily about 150,000 cu.m. of sewage by sewer from Cairo. Samples of the ordinary digested and activated sludge contained viable *Ascaris* eggs. The following method of flooding was introduced by the author. The sedimentation tanks were desludged and dewatered daily. The mixed liquid sludge and scum were pumped on to special sludge drying beds. The liquid sludge was spread in a thin layer of about 5 c. on the drying beds and left for 5 to 8 days and then similarly flooded repeatedly until 12 to 20 layers had been dried over each bed. The surface of the upper partly dried layer was then completely covered with a layer of sand half an inch thick and immediately flooded with a layer of sedimented sewage of a reasonable thickness. After a fortnight the bed was turned over to expose a larger surface to the sun. In summer 2 to 3 days sufficed to dry the sludge sufficiently



to enable it to be carted away as organic manure. The whole process occupied about 3 months. During the months of December to March the material must be stored for at least 15 days after removal from the beds and before carting to destroy the *Ascaris* eggs. During this period the flooding method is less economical than the piling method in which the material should be stored for at least 30 days.

R.T.L.

## 224—Journal of the Royal Society of Arts.

- a. MACDONALD, G., 1945.—“Tropical hygiene and the overseas Empire.” 94 (4706), 35–41.

## 225—Journal of Urology.

- a. OCKULY, E. A., 1945.—“Bilharziasis of the bladder (vesical schistosomiasis).” 54 (1), 39–45.  
 b. BURHANS, R. A., 1945.—“Filariasis in the armed forces.” 54 (1), 59–61.  
 c. McMARTIN, W. J., 1945.—“Urological aspects of filariasis.” 54 (1), 62–74.

## 226—Lantmannen.

- a. LINNMAN, N., 1945.—“Klövertrötthet och klöverål.” 29 (25), 567–569.

(226a) Linnman points out that the clover stem eelworm is quite common and widespread in leys in southern and middle Sweden where it is one of the causes for the reduction in the legume content of hay in crops from the second year onwards. He shows that the eelworm can be carried about in samples of clover seed which have been imperfectly cleaned and which contain fragments of clover stem: apparently, the eelworm is not present on well cleaned seed. He suggests, as one means of ensuring freedom from the disease, the use of very clean seed or seed from leys not carrying the eelworm. Experiments have shown in Sweden that there are certain weeds on which the clover eelworm will thrive such as *Agrostemma githago* and *Geranium dissectum*, and control of the disease may involve wide measures of weed destruction, especially of these susceptible weed hosts. He also points out that the following strains of red clover, “Merkur”, “Resistent” and “Ultuna” are fairly resistant to disease caused by the clover stem eelworm.

T.G.

## 227—Lekarz Wojskowy [Journal of the Polish Army Medical Corps].

- a. DLUGOSZ, H., 1945.—“Rzadsze schorzenia pasożytne przewodu pokarmowego.” 36 (2/3), 159–168. [In Polish: English summary pp. 167–168.]

(227a) The author describes cases of hookworm and strongyloidiasis met with among Polish troops stationed in Great Britain. The hookworm infection was acquired in Brazil. The source of the *Strongyloides* infection is unknown. After the war the hygienic conditions and population migration in Europe may bring about an increase in diseases hitherto regarded as rare.

R.T.L.

## 228—Lingnan Science Journal.

- a. KOO, S. Y., 1945.—“Trichinosis among hogs and rats in Fukien.” 21 (1/4), 39–43.

(228a) 320 pigs and 47 rats were examined for *Trichinella* infection at the Fukien Provincial Medical College at Shabsien. 5 of the pigs were infected. 36 of the rats were *Mus norvegicus* and of these 4 were positive but none of the 11 *Mus rattus* showed infection. The pigs were only slightly infected whereas the rats were all heavily infected.

R.T.L.

## 229—Maanedsskrift for Dyrlæger.

- a. SJOLTE, I. P., 1945.—“Lidt om Sygdomstilstande hos Dyr fra zoologiske Haver.” 57 (5), 149–159.

(229a) Sjolte discusses the causes of death of 615 animals autopsied in Copenhagen: most of them from the Copenhagen or other Danish zoological gardens. There is very little of helminthological interest in the paper; the writer considers that parasitic infections were only a subsidiary cause of morbidity and mortality.

S.G.C.

**230—Medical Press and Circular.**

- a. CAWSTON, F. G., 1945.—“Tropical sanitation and the engineer.” 213 (8), 125–126.

(230) Cawston draws the attention of engineers to the potential value of forced disturbance of water by ram and other means in damaging the infective stage of *Bilharzia* parasites. The finding of active cercariae below waterfalls is attributed to presence of infected snails on rushes below the falls. Banks of rivers should be cleared and their rush-coated sides covered with soil.

R.T.L.

**231—Medicina. Revista Mexicana.**

- a. NETTEL F., R., 1945.—“Contribución al estudio de la distribución de los simúlidos en el estado de Chiapas.” 25 (495), 455–459.

(231a) In the south of the State of Chiapas, where onchocerciasis is prevalent, 13,505 Simuliidae were collected on man and animals in 256 localities. Of the 3 species *Simulium ochraceum*, *S. metallicum* and *S. callidum*, the first-named was taken in the highest proportion in areas where onchocerciasis is more prevalent.

J.J.C.B.

**232—Memorias do Instituto Butantan.**

- a. LEÃO, A. T., 1945.—“Discussão em torno dos gêneros *Ochetosoma* Braun, 1901, e *Renifer* Pratt, 1902 (Trematoda).” 18, 67–74. [English summary pp. 72–73.]

(232) *Ochetosoma* Braun, 1901 was erected for *O. monstrosus* from *Corone venustissima* (*Corone* is a genus of birds), and *Renifer* Pratt, 1902 for *R. ellipticus* from snakes. The former has been regarded as a synonym of the latter since it was inadequately described and not figured. Leão points out that a fuller description, with figures, was published by Braun in 1902, and thinks Braun's host name is a lapsus for the common American snake *Coronella venustissima*. He regards *Ochetosoma* as the valid name for *Renifer*, and proposes *Ochetosomatidae* and *Ochetosomatinae* in place of *Reniferidae* and *Reniferinae*.

B.G.P.

**233—Military Surgeon.**

- a. LAPAGE, G., 1945.—“Parasites and war.” 97 (1), 23–29.

**234—Museums Journal. London.**

- a. ANON, 1945.—“A new method of preparing paraffin wax models of helminths.” 45 (9), 156–157.

**235—New Orleans Medical and Surgical Journal.**

- a. KNIGHT, C. D., 1945.—“Filariasis: a future problem in the United States.” 97 (9), 406–419.

(235a) Knight summarizes the geographical distribution, aetiology, mode of transmission, pathology and pathogenesis, symptomatology, diagnosis, prevention, treatment and prognosis of filariasis. He concludes that filariasis will not become a serious post-war problem in the United States although its potentiality should not be overlooked.

R.T.L.

**236—New York State Journal of Medicine.**

- a. AUGUSTINE, D. L., 1945.—“Filariasis.” 45 (5), 495–499.  
b. WHARTON, D. R. A., 1945.—“A review of recent findings in filariasis.” 45 (5), 500–504.  
c. BROWN, H. W., 1945.—“Intestinal helminths in New York and vicinity.” 45 (8), 893–894.

(236a) Augustine outlines the principal facts concerning Bancroftian filariasis and the relation of *Wuchereria bancrofti* to the pathology. Two case records are reported: one in which no symptom could be attributed solely to infection with the parasite, the other indicating that deformity is not likely to result in most instances.

R.T.L.



(236b) Wharton says that filariasis may be recognized (i) by clinical and physical signs, (ii) the finding of the adult worms on biopsy, (iii) finding calcified worms by X-ray, (iv) evidence obtained from section of pathological material, (v) occurrence of microfilariae in the blood, (vi) cutaneous test. A number of mosquitoes in the southern United States have been shown to be efficient carriers. R.T.L.

(236c) Gentian violet is the most effective treatment for *Enterobius vermicularis*. The dosage recommended is 0.01 gm. per year of age. For a child the total dose is arrived at by multiplying this figure by the child's age and dividing by 3, as the treatment is given before each meal for 8 days. The adult dose is 0.065 gm. thrice daily for 8 days. Headache, nausea and vomiting may accompany the treatment. It is necessary to treat all the members of the family and to take preventive measures of personal hygiene. R.T.L.

### 237—New Zealand Journal of Science and Technology. A. Agricultural Section.

- a. JACKS, H., 1945.—“Soil disinfection. IV. Chemical treatment of glasshouse soil.” 27 (3), 250-255.

(237a) Glasshouse soils infected with *Heterodera marioni* were treated with carbon disulphide, chloropicrin and Shell D-D. All treatments caused increased yield and satisfactory eelworm control, but at the dosages used (2 ml. per square foot) did not eradicate the eelworm when the soil contained undecayed infested roots. Chloropicrin gave higher yields and more marked response in plant vigour than the other chemicals. R.T.L.

### 238—New Zealand Medical Journal.

- a. BARNETT, L., 1945.—“Progress in our knowledge of hydatid disease. With some contributions thereto from the Otago Medical School.” 44 (244), 304-308.

(238a) Barnett holds that the majority of primary hydatid cysts in man are acquired in childhood, though symptoms may appear only after 10 to 30 years in the case of liver cysts. Biliary colic and jaundice may be due to the rupture of a hydatid into the bile ducts. With lung cysts the injection of formalin may lead to respiratory troubles and should be avoided. Brain cysts outside of childhood are mostly secondary to a primary heart cyst. On the average the *Echinococcus* egg measures  $41\mu$  by  $34\mu$  and the hexacanth embryo  $28\mu$  by  $25\mu$ . Natural immunity in dogs is less common than formerly supposed; arecoline remains the best taeniocide available. B.G.P.

### 239—Phytopathology.

- a. WALKER, M. N., 1945.—“Galls on the roots of citron-watermelon hybrids.” 35 (6), 480-482.

- b. CLAYTON, E. E., GAINES, J. G., SMITH, T. E. & GRAHAM, T. W., 1945.—“Chemical soil treatments for disease and weed control in tobacco plant beds.” [Abstract of a paper presented at the 2nd Annual Meeting of the Potomac Division of the American Phytopathological Society.] 35 (6), 483.

(239a) Although occasionally nematodes were observed there was no evidence of causal relationship with the gall formations present on the roots of citron-watermelon hybrids. R.T.L.

(239b) Uramon (urea) at the rate of 1 to  $1\frac{1}{2}$  lb. per sq. yard was effective against weeds, black root rot and root knot. D-D mixture gave excellent root knot control but did not destroy weeds or black root rot. The best results were obtained with 1 lb. of uramon and  $\frac{1}{2}$  lb. of cyanamide per sq. yard. Best results from chemical treatment obtained in light sandy soils and were superior to steam sterilization in disease control and yield but inferior in weed control. R.T.L.

### 240—Poultry Science.

- a. HALL, G. O., 1945.—“A large roundworm *Ascaridia lineata* found in egg of fowl.” 24 (6), 496-498.

## 241—Practitioner.

- a. HODGE, E. H. V., 1945.—“Intestinal infestations.” 155 (5), 306–312.

## 242—Prensa Médica Argentina.

- a. CANÓNICO, A. N., 1945.—“Quiste hidatídico del bazo. Esplenectomía. Curación.” 32 (5), 202–205.  
 b. SOMALOMA, T., 1945.—“Anquilostomiasis.” 32 (25), 1183–1184.

## 243—Proceedings of the Indian Academy of Sciences. Section B.

- a. SARWAR, M. M., 1945.—“Incidence of some nematodes of domestic ruminants in the Punjab and United Provinces, with a note on the morphology of *Trichuris globulosa* (v. Linstow).” 22 (5), 274–278.

(243a) Sarwar records for the first time in India the presence of *Trichostrongylus probolurus*, *T. axei*, *Ostertagia ostertagi*, *O. mentulata*, and *Trichuris globulosa* in goats; *T. globulosa*, *Cooperia punctata*, *C. pectinata*, and *O. mentulata* in sheep; *O. mentulata* in *Gazella bennettii*; and *T. colubriformis* in cattle. He comments on the irregular and erratic distribution of certain helminths, e.g. *T. probolurus* is common in the Punjab but does not seem to occur at all at Izatnagar. He considers that *Trichuris globulosa* is distinct from *T. ovis* and describes its internal genitalia, pointing out distinguishing characters. P.A.C.

## 244—Proceedings of the Leeds Philosophical Society. Scientific Section.

- a. LLOYD, L., 1945.—“Demonstration of nuclear division in Nematoda.” 4 (4), 251–258.

## 245—Proceedings of the Royal Society of Medicine.

- a. WARD, R. O., 1945.—“Some surgical aspects of urinary bilharziasis.” 39 (1), 27–38.

## 246—Proceedings of the Society for Experimental Biology and Medicine.

- a. BRAND, T. VON & SIMPSON, W. F., 1945.—“Physiological observations upon larval *Eustrongylides*. IX. Influence of oxygen lack upon survival and glycogen consumption.” 60 (3), 368–371.

(246a) It is shown by von Brand that a few larvae of *Eustrongylides ignotus* (2 out of 26 tested) can survive for 4 years *in vitro*. A high but not complete degree of anaerobiosis could be survived for a long period of time but complete anaerobiosis was lethal in about 18 days. Under anaerobic conditions feeding did not appear to occur and body reserves of glycogen were consumed 3 times as fast as when starving under aerobic conditions. D.F.

## 247—Puerto Rico Journal of Public Health and Tropical Medicine.

- a. HERNÁNDEZ MORALES, F., 1945.—“The treatment of schistosomiasis.” 20 (3), 322–338. [Also in Spanish pp. 339–356.]  
 b. OLIVER GONZÁLEZ, J., BIAGGI, N. & RIVERA LEÓN, J., 1945.—“The effect of chlorine on the motility and infectivity of the cercariae of *Schistosoma mansoni*.” 20 (3), 357–361. [Also in Spanish pp. 362–366.]  
 c. PEPPER, O. H. P. & DÍAZ RIVERA, R. S., 1945.—“Trichiniasis: a review of the clinical picture and laboratory diagnosis of the disease, with an analysis of several cases.” 20 (3), 367–376. [Also in Spanish pp. 377–388.]  
 d. OLIVER GONZÁLEZ, J., 1945.—“Diferencias antigénicas entre la larva y el adulto de la *Trichinella spiralis*.” 20 (3), 389–416.

(247a) After reviewing the literature on the treatment of schistosomiasis the author considers foudadin is the drug of choice in *S. mansoni* owing to its ease of administration and low toxicity, in spite of the fact that it is effective only in 50% to 60% of cases treated. Cases illustrating the most important and severe reactions to the drug are cited. R.T.L.

(247b) The cercariae of *Schistosoma mansoni* are rendered non-infective to rats when these are exposed to a solution of chlorine, with a residual minimum of 0.5 parts per million, for a minimum of 20 minutes. A concentration of 0.22 parts per million of water was not certainly effective as cercariae which had apparently lost their motility were still infective to rats. R.T.L.



(247c) That trichinosis has never been reported from Puerto Rico although pork products imported from the United States are extensively consumed is attributed to the thorough cooking practised in Puerto Rico. This paper, which is concerned chiefly with the great variability of the symptoms and the difficulties of differential diagnosis, gives details of 8 cases seen at the hospital of the University of Pennsylvania which were diagnosed by the demonstration of *Trichinella spiralis* in the blood, spinal fluid or muscles. R.T.L.

(247d) Oliver-González shows that 2 antibodies appear in the blood serum of rabbits experimentally infected with *Trichinella spiralis*. One, directed against adult worms, produces precipitation round the mouth and anus; the other, directed against the larvae, produces precipitation round the mouth but not the anus. The anti-adult antibody seems to be the one concerned in the passive transmission of immunity from one individual to another. It is probable that both antibodies are induced at all times of the infection but that the quantities vary. The anti-adult type begins to appear after 15 days and increases to a maximum towards the 35th day after which it decreases. The anti-larval type appears at about the 30th day, increases in quantity up to the 60th day and remains at this concentration for another 60 days. P.A.C.

#### 248—Recueil de Travaux de Sciences Médicales au Congo Belge.

- a. WANSON, M. & HENRARD, C., 1945.—"Habitat et comportement larvaire du *Simulium damnosum* Theobald." No. 4, 113-121.
- b. WANSON, M., HENRARD, C. & PEEL, E., 1945.—"*Onchocerca volvulus* Leuckart. Influence d'infection des simuliés agressives pour l'homme. Cycle de développement chez *Simulium damnosum* Theobald." No. 4, 122-138.

(248a) Wanson & Henrard studied the ecology of *Simulium damnosum* in the Leopoldville region, with special reference to the habitat of the larval stages, their development and nutrition. The adults are most numerous in the vicinity of the Rapids, but they have also been taken 15 to 20 kilometres distant from their breeding places. In Leopoldville they are especially prevalent on the rivers Congo and Lukunga. The longevity of the adult females is tentatively fixed at less than 3 weeks. The most favoured breeding places are the rocky rapids between the river bank and islands where the sites of attachment of larvae and pupae are provided principally by the stems of the grass *Pennisetum nodiflorum* and native wicker fish traps. The greatest breeding activity is during the period of highest water (15 September to 15 January) which coincides with the beginning of the warm season. The egg to adult development occupies 9 days. J.J.C.B.

(248b) At Leopoldville, both *Simulium damnosum* and *S. albivirgulatum* bite man, but only *S. damnosum* transmits *Onchocerca volvulus*. The authors proved this by dissecting large numbers of both species for natural infections with larval stages of *O. volvulus* and also experimentally by demonstrating the development of the parasite in *S. damnosum* which was completed in 6 to 7 days. The technique employed for keeping the flies alive during the experiments is described. The human infection is most prevalent among the native fishing population established along the river banks. The infection rate in *S. damnosum* decreases almost to nothing at a dozen kilometres from its principal habitat but its area of dispersal extends far beyond this distance. J.J.C.B.

#### 249—Report of the Kentucky Agricultural Experiment Station.

- a. ANON, 1945.—"Longevity of *Haemonchus contortus* larvae on pasture in summer." 57th (for 1944), p. 40.

(249a) Experimental work at the Kentucky Agricultural Experiment Station indicates that pastures not used by sheep during July, August and September became almost free from *Haemonchus contortus* larvae capable of infecting lambs although the experimental plots had been drenched with infected faeces during June. R.T.L.

**250—Revista Brasileira de Biología.**

- a. LENT, H., FREITAS, J. F. TEIXEIRA DE & PROENÇA, M. C., 1945.—“Trematódeos de morcegos colecionados no Paraguay.” 5 (4), 499–507.
- b. CABALLERO Y C., E., 1945.—“Morfología y posición sistemática de *Onchocerca cervipedis* Wehr & Dikmans, 1935.” 5 (4), 557–562. [English summary p. 561.]

(250a) Four species of trematodes are described from bats in Paraguay. Of these 2 are new and are named and illustrated. *Paralecithodendrium aranhai* n.sp., from the intestine of *Tadarida laticaudata* and *Molossus crassicaudatus*, is differentiated from *P. anticum* by the position of the testes, and *Prosthodendrium buongerminii* n.sp., also from *M. crassicaudatus*, which approximates *P. naviculum* and *P. scabrum*. The two known species also described from Paraguay are *Limatulum limatulum* and *Urotrema scabridum*, both from *Myotis nigricans*.

R.T.L.

(250b) After examining the type material of *Onchocerca cervipedis* of Wehr & Dikmans 1935, Caballero creates a new genus *Wehrdikmansia* on account of the differences in the cuticle, the cephalic papillae, the oesophagus, the shape of the spicules and the number and arrangement of the caudal papillae and uteri.

R.T.L.

**251—Revista Ibérica de Parasitología.**

- a. SEGURA, M. A., 1945.—“Contribución al estudio de los ileos por áscaris.” 5 (1/2), 3–110.

(251a) While studying ascariasis Segura gave attention to the intense colic which is so often associated with it in the province of Santander, particularly among young children. It is due partly to mechanical obstruction and partly to a spastic irritative factor while adhesions and an irritative peritonitis also play a part. The symptoms may suggest other disease conditions, particularly appendicitis but can be distinguished by the characteristic pain and by the spastic factor. Radiological means are very useful in diagnosis, the worms appearing as dark parallel lines when an opaque enema is used as a background. Treatment can only be successful if diagnosis is accurate.

P.A.C.

**252—Revista Médica de Chile.**

- a. ACEVEDO DAVENPORT, E. & MÜNNICH, G., 1945.—“Hidatidosis.” 73 (3), 249–251.

**253—Revista Médica Peruana.**

- a. GONZÁLEZ R., D., 1945.—“Algunos datos sobre la patología de la región de Tingo María.” 18 (194), 34–68.
- b. VILLARÁN, C., 1945.—“El quiste hidático del riñón. Clínica quirúrgica del Prof. Dr. Carlos Villarán.” 18 (199), 219–230.

**254—Revista de Medicina Veterinária. Lisboa.**

- a. SILVA LEITÃO, J. L. DA, 1945.—“Parasitoses animais.” 40 (312), 15–24.

(254a) Stressing the point that parasitic infestations in live-stock, though less spectacular than bacterial diseases, are important owing to their insidious nature and their economic effect in reducing the value of animal products, da Silva Leitão quotes as examples some Portuguese data on the incidence of liver-fluke, hydatid, and lungworm, in 1942. Tables give, under hosts, the number of cases of partial abattoir condemnations due to each of these parasites, and an estimate of the economic loss involved. On this point, it is shown that the number of animals slaughtered in 1942 was greatly reduced owing to the war, so that the total loss for that year is far less than normal.

B.G.P.

**255—Revue Suisse de Zoologie.**

- a. BAER, J. G., 1945.—“Un temnocéphale nouveau, *Temnocephala handschini* n.sp. de la Nouvelle Guinée.” 52 (4), 505–512.
- b. KREIS, H. A., 1945.—“Beiträge zur Kenntnis parasitischer Nematoden. XII. Parasitische Nematoden aus den Tropen.” 52 (4), 551–596.



(255a) *Temnocephala* can often be found, in museums of natural history, in the sediment of jars in which freshwater crustacea are preserved. In this way Baer found *Temnocephala handschini* n.sp., from the bottom of a jar containing *Paracheraps quadricarinatus* collected in Dutch New Guinea. The new species, here described and figured, bears 7 rows of large sensory papillae on the dorsal surface. The eggs [here quoted as longer than a small adult] are arranged in a circle, attached to the carapace or other part of the crustacean. *T. rouxi* was found in the same jar, and *T. novaezelandiae* attached to *Paranephrops zelandicus*. These freshwater crustaceans, and their temnocephalan commensals, show curious discontinuities in geographical distribution. B.G.P.

(255b) This paper consists of a detailed systematic account of the collections of nematodes made in Peru, Brazil and Madagascar and now in the Anatomical Institute in Berne. The specimens described are from Primates, Cetacea, Carnivora, Insectivora and chameleons, and comprise two new genera and six new species. *Mirandonema intestinalis* n.g., n.sp. from *Nasua rufa* is very similar to *Diectophyme renale*. *Pararhabdonema longistriata* n.g., n.sp. from *Lichanotus laniger* is closely related to *Nematodirus* and *Nematodirella*. *Physaloptera blütschlii* n.sp. is from *Centetes* sp., and *P. ericuli* n.sp. is from *Ericulus* sp. The genus *Chlamydonema* Hegt, 1910 is reviewed and *C. lagothricis* n.sp. from the stomach of a marmoset (*Lagothrix* sp.) is figured. *Foleyella chamaeleonis* Kreis, 1938 and *F. pigmentata* n.sp. are described from a Madagascar chameleon. Descriptions are also given of *Dipetalonema gracile* from *Chrysothrix* sp., *Dipetalonema* sp. from *Nyctipitherus azarae* and *Anisakis insignis* from *Inia geoffroyensis*. S.G.C.

#### 256—Skandinavisk Veterinär-Tidskrift.

- a. PLAZIKOWSKI, U., 1945.—“Några ord om duvornas sjukdomar och deras bekämpande. En sammanställning.” 35 (1), 1–30. [English summary p. 30.]
- b. CHRISTENSEN, N. O., 1945.—“A clinically and pathologico-anatomically characteristic case of trichostrongylosis in the horse.” 35 (1), 49–55.

(256a) In a consideration of diseases of the pigeon Plazikowski mentions specifically infestation with *Taenia crassula* and *Heterakis maculosa*. P.A.C.

(256b) Christensen describes the changes brought about in a horse by a massive infestation of *Trichostrongylus axei*. These included hyperplasia of the gastric epithelium. P.A.C.

#### 257—South African Medical Journal.

- a. LIEBERMANN, H. R., 1945.—“Carrier rate of intestinal parasites in the non-European staff of a military hospital in Natal, with special reference to *E. histolytica*.” 19 (13), 231–233.
- b. ANON, 1945.—“Will tropical diseases be brought back by returning soldiers?” 19 (22), 427–428.

#### 258—Texas Reports on Biology and Medicine.

- a. SCOTT, J. A., 1945.—“Hookworm disease in Texas.” 3 (4), 558–568.

(258a) Hookworm, which at one time was common in Texas, is now present in a very small percentage of the population and clinical cases are rare. The improvement is probably due partly to control measures and partly to the general rise in the economic and other living conditions. R.T.L.

#### 259—Tijdschrift over Plantenziekten.

- a. SEINHORST, J. W., 1945.—“Een laboratoriummethode voor de bepaling van de vatbaarheid van rogge voor aantasting door het stengelaaltje (*Ditylenchus dipsaci* (Kühn) Filipjev).” 51 (2), 39–52. [English summary p. 51.]
- b. SEINHORST, J. W. & DUNLOP, M. J., 1945.—“De aantasting van enige solanumsoorten en enige kruisingen tussen *Solanum demissum* en *S. tuberosum* door het stengelaaltje *Ditylenchus dipsaci* (Kühn) Filipjev.” 51 (3), 73–81. [English summary pp. 78–79.]

(259a) Seinhorst describes a laboratory method for testing the susceptibility of rye plants to disease caused by the stem eelworm. By means of an improved Baermann funnel technique eelworms are collected from affected rye plants, assembled in a narrow glass tube, washed in water and then concentrated in a small drop of water. For inoculation into a plant they are taken on a flat steel needle and placed between the desired tissues; a vertical incision being made in the coleoptile of a young seedling or in the leaf sheath of a tiller in the case of an older plant. About 100 nematodes per plant proved to be the best dose for susceptibility experiments. Only young growing parts showed symptoms after inoculation. Susceptible and resistant plants can be clearly distinguished both as seedlings and as older plants. T.G.

(259b) Seinhorst & Dunlop carried out investigations on the susceptibility of certain *Solanum* species and crosses to infestation by the stem eelworm, *Ditylenchus dipsaci*. They inoculated tubers by putting eelworms into an incision and stems by putting eelworms between young tissues at the top of a shoot. Infestation was determined by the ability, or inability, of the nematodes to establish themselves in the tissues which, in the case of the tubers, developed various defence reactions. The following were found to be susceptible hosts: *Solanum demissum* Lindl., *S. antipoviczii* Buk., *S. andigenum* Juz. & Buk., while *S. chacoense* Bitt. proved to be insusceptible. T.G.

## 260—Transactions and Proceedings of the Royal Society of New Zealand.

- a. MACFARLANE, W. V., 1945.—“The life cycle of the heterophyoid trematode *Telogaster opisthorchis* n.g., n.sp.” 75 (2), 218–230.

(260a) Macfarlane describes and illustrates the adults and developmental stages of *Telogaster opisthorchis* n.g., n.sp., a cryptogonimid fluke from the intestine of the freshwater eels *Anguilla dieffenbachii* and *A. australis schmidtii*, in New Zealand. The eggs appear not to hatch externally but are eaten by *Potamopyrgus badia* and 2 other species of the same genus, in which rediae develop. No sporocyst has been found. The lophocercous cercaria penetrates to the muscles of several freshwater fish, and the process of penetration has been observed in detail in hanging drop preparations of neutral red/Ringer: it involves a combination of factors, mechanical (protrusible penetration-snout with forward-directed spines) and chemical (well-developed histolytic glands). The metamorphosis in the metacercarial stage has also been observed, and progenetic metacercariae have been found, producing up to 20 viable eggs which lie free in the cyst. B.G.P.

## 261—Transactions of the Royal Society of South Australia.

- a. JOHNSTON, J. H. & MAWSON, P. M., 1945.—“Some parasitic nematodes from South Australian marine fish.” 69 (1), 114–117.  
 b. JOHNSTON, T. H. & BECKWITH, A. C., 1945.—“Larval trematodes from Australian freshwater molluscs. Part X.” 69 (2), 229–242.  
 c. JOHNSTON, T. H. & MAWSON, P. M., 1945.—“Capillariid nematodes from South Australian fish and birds.” 69 (2), 243–248.

(261a) Six nematodes from marine fishes obtained from St. Vincent Gulf and Kangaroo Island are described. Of these *Ascarophis cooperi* from *Platycephalus bassensis* and *Cucullanellus cnidoglanis* from *Cnidoglanis megastoma* are new species. *A. cooperi* n.sp. closely resembles *A. nototheniae*. *C. cnidoglanis* n.sp. differs from *C. pleuronectidis* in minor details. R.T.L.

(261b) Johnston & Beckwith describe and figure: *Cercaria* (*Furcocercaria*) *tetradena* n.sp., common in *Plotiopsis tatei* from the lower River Murray, with a flame-cell pattern  $2[(2+2)+(2+2+[2])]=20$ ; also *Cercaria* (*Furcocercaria*) *notopalae* n.sp. from *Notopala hanleyi*, with a flame-cell pattern  $2[(3+3+3)+(3+3+[3])]=36$ . In both cases the sporocyst is described, and in the second the metacercaria also, which encysts in molluscs; *C. tetradena*, however, failed to encyst in a variety of proffered hosts. B.G.P.

(261c) Johnston & Mawson describe 7 new species of *Capillaria* from fish and birds in South Australia. *C. rhinobati* n.sp. from *Aptychotrema banksii* has a large number of smooth thin-shelled eggs and the spicules measure 0.16 mm. long. *C. latridopsis* n.sp. from *Latridopsis*



*forsteri* can be distinguished by the relative length of the body regions and by the capsule surrounding the egg shell. *C. cooperi* n.sp. from *Callionymus calauropomus* can be differentiated by the shape of the egg and its short stout body. The bird forms include *C. jaenschi* n.sp. from species of *Phalacrocorax*, *Larus*, *Pelecanus* and *Chlidonias* which can be recognized by the eggs which are coarsely pitted with prominent plugs and by the shape of the male tail and bursa. *C. ellisi* n.sp. from *Chenopsis atrata* has no bacillary band, while *C. pomatostomi* n.sp. from *Pomatostomus superciliosus* has smooth-shelled ovoid eggs. From *Grallina cyanoleuca* is described *C. grallinae* n.sp. which has a spiny egg shell and inconspicuous vulva. P.A.C.

## 262—Transactions of the Royal Society of Tropical Medicine and Hygiene.

- a. WENYON, C. M., 1945.—“Tropical medicine in war and peace.” [Presidential Address.] 39 (3), 177-194.
- b. TROWELL, H. C. & MUWAZI, E. M. K., 1945.—“A contribution to the study of malnutrition in Central Africa. A syndrome of malignant malnutrition.” 39 (3), 229-243.

## 263—Tropical Medicine News.

- a. COGGESHALL, L. T., 1945.—“Filariasis and other tropical diseases at Marine Barracks, Klamath Falls, Oregon.” 2 (3), 13-14.
- b. FRANK, J. H., 1945.—“Zinc sulfate centrifugal floatation.” 2 (3), 14-15.
- c. CRAM, E. B., JONES, M. F. & WRIGHT, W. H., 1945.—“A potential intermediate host of *Schistosoma mansoni*.” 2 (3), 15-16.

(263a) The policy of keeping well-occupied those suffering from chronic filariasis, malaria and tropical eosinophilia, has been very successful at the Marine Barracks in Oregon. After 9 months, lymphangitis, lymphoedema and lymphadenopathy are rarely seen, and circulating microfilariae have disappeared from the blood stream. P.A.C.

(263b) When concentrating protozoan cysts and helminth larvae and eggs by centrifuging in zinc sulphate, Frank adds a few drops of collodion diluted with an alcohol-ether mixture. This forms a surface film to which cysts, eggs and larvae adhere during centrifugation. It can be lifted off intact by means of two sticks and examined in the usual way under a microscope. *Strongyloides stercoralis* larvae and eggs of *Trichuris trichiura*, *Enterobius vermicularis*, *Ascaris lumbricoides* and *Hymenolepis nana* were recovered by this method. P.A.C.

(263c) [This paper appeared also in Science, 101, 302. For abstract see Helm. Abs., Vol. XIV, No. 53a.]

## 264—United States Naval Medical Bulletin.

- a. HUNTINGTON, JR., R. W., 1945.—“Skin reactions to *Dirofilaria immitis* extract.” 44 (4), 707-717.
- b. SMITH, JR., F. R., 1945.—“Filariasis: a study of 737 patients so diagnosed.” 44 (4), 719-725.
- c. RUSSELL, H. K. & SCOTT, J. O., 1945.—“Intestinal parasites among Melanesians.” 44 (4), 727-728.
- d. MICHAEL, P., 1945.—“Filariasis: histopathologic study.” 45 (2), 225-236.
- e. HUNT, A. R., 1945.—“Schistosomiasis in naval personnel.” 45 (3), 407-419.
- f. McCORKLE, J. K., 1945.—“Modification of Faust-Meleney technic. Faeces examination for *Schistosoma japonicum*.” 45 (3), 420-422.
- g. EDITORIAL, 1945.—“Schistosomiasis japonica.” 45 (3), 565-566.
- h. MAGATH, T. B. & MATHIESON, D. R., 1945.—“Infection of wild rats on Leyte with *Schistosoma japonicum*.” 45 (6), 1195-1202.

(264a) The skin test with *Dirofilaria immitis* antigen is not strictly specific for the filarial group but its use can be of some value in the diagnosis of early and sub-clinical-filariasis in man. It is, however, better to rely on correct interpretation of clinical symptoms as negative results were obtained in certain obvious and acute infestations. Positives sometimes appeared in *Ascaris* patients. P.A.C.

(264b) As the result of the examination of 737 patients with a diagnosis of filariasis or lymphadenitis in New Caledonia, Smith comes to the conclusion that some of the symptoms have been over-emphasized. It is sometimes difficult to distinguish the actual disease from pseudo-filariasis. He lists 8 considerations which may be very useful in diagnosis in the absence of microfilariae. P.A.C.

(264c) A faecal survey of 125 Melanesians showed that 97% carried hookworm and nearly 50% had whipworm. *Ascaris lumbricoides*, *Strongyloides stercoralis*, *Oxyuris vermicularis*, *Dipylidium caninum*, *Fasciolopsis buski*, *Hymenolepis nana*, *H. diminuta* and a species of *Taenia* were the other helminths found. Zinc sulphate solution is highly efficient in concentrating helminth eggs and larvae. P.A.C.

(264d) The presence of adult filaria parasites initiates a characteristic foreign-body granulomatous reaction. In most instances the parasite is engulfed and destroyed on evacuation of the patient from the endemic area. It is thought that filariasis will not prove to be a public health problem in the U.S.A. and that the risk of permanent physical damage is negligible. Many of the lesions are apparently allergic. R.T.L.

(264e) Hunt gives a clinical study of 16 cases of *Schistosomiasis japonica* among U.S. naval personnel on the Philippine Island of Leyte. The response to Fouadin was adequate in all but one case. R.T.L.

(264f) McCorkle describes a modification of the Faust-Meleney method for the diagnosis of *Schistosoma japonicum* infection by the observation of hatched miracidia obtained by the emulsifying of 20 to 30 gm. of faeces in water. As these miracidia swim in a straight line until an object is struck and then go off in another straight line they are easily differentiated from free-living flagellates. This technique is of special value where there is a light infection. R.T.L.

(264h) *Schistosoma japonicum* occurs in dogs, young water buffaloes (carabao) and young pigs in the Leyte Valley on the east side of Leyte Island. Of 163 wild rats examined by the authors 64 were found to be infected. Of these 11 came from the swamp barrio area at Palo, 37 came from the barrio area of Gacao, 4 from the radio station at Dagami, 10 from the barrio area of Santa Fe, and 2 from the barrio area of Alangalang. The intermediate host is *Schistosomophora quadrasi* and is abundant in small creeks, ditches and swampy areas near the villages of Palo and Gacao where 4.5% were infected. The population of the Dagami region and of the village of Santa Fe is known to be heavily infected. R.T.L.

## 265—Växtskyddsnotiser.

a. HOLMBERG, C., 1945.—“Potatiskräfta och potatisål i Sverige år 1944.” No. 1, 12-13.

(265a) In Sweden eelworm infection of potatoes is spreading rapidly. In 1943 new areas of infection were officially recorded in about 900 holdings in 42 communes in 12 provinces. The pest was unknown previously in 8 of these communes. During 1944 the great majority of outbreaks occurred in the Kristianstad and Blekinge provinces. The disease is now regarded as the most serious menace to the cultivation of potatoes. R.T.L.

## 266—Veterinariya.

- a. ANTIPIN, D. N., 1945.—[Control of *Parascaris* in horses.] 22 (1), 27-29. [In Russian.]
- b. POTEKINA, V. A., 1945.—[Treatment of *Fasciola* in cattle with hexachlorethane.] 22 (4/5), 28-29. [In Russian.]
- c. CHEBOTAREV, R. S., ARKHIPOV, V. V. & KOLOSKOVA, V. R., 1945.—[Experiments with phenothiazine in the control of parasitic diseases in animals.] 22 (6), 14-17. [In Russian.]

(266a) The author describes the life history of *Parascaris*, methods of infection and symptoms in infected animals including changes in the blood picture. He advises dosing horses with carbon tetrachloride and carbon disulphide and gives the requisite doses for horses of various ages. To prevent the spreading of infestation, he suggests the sanitary disposal of manure and several other precautionary measures. C.R.



(266b) Potemkina, testing the effects of hexachlorethane on *Fasciola* in cattle, found that the dose 0.4 gm. per 1 kg. body weight gave 60% and 36.6% efficacy; 0.6 gm. per 1 kg. body weight gave 83.3% efficacy, and 0.8 gm. per 1 kg. body weight gave 100% efficacy. She noted that for 3 days after dosing the milk was noticeably tainted with hexachlorethane. The flesh of the animals killed within 8 days of dosing was completely untainted. C.R.

(266c) The authors experimenting with phenothiazine mixed with food found it to be very effective when given in the following doses: 35 to 40 gm. for adult horses, 5 to 10 gm. for foals from 3 to 6 months, 12 to 25 gm. for foals from 1 to 2 years and 20 to 35 gm. for horses 2 to 3 years. These doses were given once only. (When given to horses in doses of 120 gm. and more per day, phenothiazine was found to be poisonous and horses died after 5 to 8 days. The authors include in the paper a very detailed description of postmortem examination.) For pigs 0.6 gm. per 1 kg. body weight was given twice, both doses being given on the same day. For adult cattle 30 to 40 gm., calves from 6 months to one year 10 to 20 gm.; in both cases in a single dose. The authors did not find any difference in action between purified and commercial phenothiazine. C.R.

## 267—Veterinary Journal.

- a. WENTWORTH, LADY, 1945.—“Colic from red worms in the mesenteric artery.” 101 (10/11), 243.

## 268—Veterinary Medicine.

- a. WRIGHT, R. C., 1945.—“Treatment for whipworms in the dog.” 40 (10), 354.  
b. SMITH, J. J., 1945.—“*Bunostomum phlebotomum* in a calf.” 40 (11), 387.

(268a) Within a week of treatment with a 0.05% solution of potassium permanganate injected per rectum into the colon by a colon tube, a dog suffering from whipworm infection was cured. R.T.L.

(268b) Postmortem on a calf which had suffered from fatal diarrhoea revealed heavy infection with immature *Bunostomum phlebotomum*. No eggs were present in the faeces. There was also coccidiosis. R.T.L.

## 269—Vierteljahrsschrift der Naturforschenden Gesellschaft in Zürich.

- a. JENNI, W., 1945.—“Zur Kenntnis der Fischparasiten des Zürichsees.” 90 (4), 271–275.

(269a) Jenni lists 25 species of parasites collected from fish caught in the Lake of Zürich. Of these 3 were trematodes, 8 cestodes, 2 nematodes, 3 Acanthocephala, 2 Sporozoa and 4 Crustacea. Information on their hosts, organ infected, numbers present and size is tabulated. R.T.L.

## 270—War Medicine.

- a. JOHNSON, JR., A. S. & BERRY, M. G., 1945.—“Asiatic schistosomiasis: clinical features, sigmoidoscopic picture and treatment of early infections.” 8 (3), 156–162.

## NON-PERIODICAL LITERATURE

- 271—BAKER, A. D., 1945.—“The sugar-beet nematode in Ontario.” Processed Publication, Division of Entomology, Department of Agriculture, Canada, No. 30, 4 pp.

*Heterodera schachtii* is present on sugar-beet in Ontario, Canada. The largest affected area lies in Lambton County, just north-east of Sarnia. Some years ago a small infested field was located at Glencoe but no new outbreak has occurred there. The Ontario Department of Agriculture under the Plant Diseases Act has regulations designed to prevent the spread of this disease but these are not cited in this bulletin. R.T.L.

- 272—EGYPT, MINISTRY OF PUBLIC HEALTH, 1945.—“Bilharzia Snail Destruction Section. First annual report, 1942.” Cairo, 21 pp.

This report deals with the organization and equipment of the Snail Destruction Campaign being carried out in the Fayoum and gives an illustrated account of the methods being followed for the eradication of the intermediary hosts of *Schistosoma haematobium* by canal clearance and the use of copper sulphate. The difficulty of eradication is enhanced by the self-fertilization of the molluscan vectors.

R.T.L.

- 273—FLOCH, H. & LAJUDIE, P. DE, 1945.—“Sur la filariose à *W. bancrofti* en Guyane Française, la lymphangite endémique et l'éléphantiasis des pays chauds.” Institut Pasteur de la Guyane et du Territoire de l'Inini, Publication No. 109, 17 pp.

Of 430 Creoles examined for microfilariæ of *Wuchereria bancrofti*, 13.7% were positive. Of these 70 originating from Martinique showed 11.4%. 327 from Guiana gave 14.3%. Equal proportions of those suffering from endemic lymphangitis and those not so affected had microfilariæ in their nocturnal blood. The authors do not accept the filarial hypothesis of tropical lymphangitis but attribute it to streptococcal infection. Moreover, the percentage of cases of elephantiasis with microfilariæ is approximately the same in those not so affected. The presence or absence of nocturnal microfilariæ is therefore a mere coincidence. Elephantiasis may occur without lymphangitis and vice versa. Chronic streptococcal infection is a factor common to both.

R.T.L.

- 274—GOULD, S. E., 1945.—“Trichinosis.” Springfield, Illinois, xi+356 pp.

The present day need for accurate information about trichinosis is adequately met by this beautifully illustrated and printed monograph. In its 356 pages the author authoritatively surveys our knowledge of its history, epidemiology, pathology, immunology, symptomatology, diagnosis, treatment, prognosis and prevention, and with the morphology and life-cycle of the parasite in man and animals. There is also an up-to-date bibliography from which omissions are rare. A minatory warning by the publisher limiting reviewers to the quotation of “extremely brief passages” inhibits our desire to give our readers an adequate impression of the excellence of this work.

R.T.L.

- 275—HUMMELEN, L. R., 1945.—“Helminthiasis bij kinderen in het bijzonder bĳnen het schoolartsendistrict ‘Huizen’.” Thesis, Amsterdam, 91 pp. [English summary pp. 87–91.]

From the stool examination of 1,708 school children in the Huizen district, S.E. of Amsterdam, Hummelen found *Ascaris* in 14.6%, *Trichuris* in 12.2%, and both in 4.9%. Examination by anal swab showed 85.2% of 1,060 children to be infected with *Enterobius*; from tested dust samples, the author considers this to be a common source of infection. Gentian violet appears to be effective only against the adults. Neither *Taenia* nor hookworm eggs were found, but 7 cases showed eggs of *Trichostrongylus*.

B.G.P.

- 276—MACKIE, T. T., HUNTER, III, G. W. & WORTH, C. B., 1945.—“A manual of tropical medicine, prepared under the auspices of the Division of Medical Sciences of the National Research Council.” Philadelphia & London, xix+727 pp.

- 277—MANSON-BAHR, P. H., 1945.—“Manson's tropical diseases: a manual of the diseases of warm climates.” London, 12th edit., xiv+1068 pp.

- 278—NATIONAL VETERINARY MEDICAL ASSOCIATION, 1945.—“Report on diseases of farm livestock. Section III. Parasitic diseases of cattle.” London, 63 pp.

- 279—TEMKIN, O., 1945.—“A report on the medicinal treatment of *Filariasis bancrofti*.” National Research Council, Division of Medical Sciences (Office of Medical Information), Washington, 69 pp.

From available information it is concluded that the early symptoms of filariasis are partly allergic and partly due to inflammatory reactions caused by adult filariæ. It is not certain that a drug which will kill the filariæ will also cure the disease. Clinical observation indicates a relatively good prognosis if re-infection is prevented and the patient put under favourable climatic, physical and psychological conditions. The report then summarizes work hitherto done on the action of drugs *in vitro* on their effect on related filariæ in animals, on clinical symptoms and on microfilariæ in man.

R.T.L.



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